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GEOGRAPHY & INDUSTRY

The EDISON ELECTRIC INSTITUTE BULLETIN

May 1955

Accounting Conference Summary

Making Sure of Commercial Progress
Harold Quinton

Electric Heating, Air Conditioning and the Heat Pump
Philip Sporn

1954—Springboard for the Future
Harllee Branch, Jr.

Let's Recognize Future Problems
Philip A. Fleger

Published Monthly by Edison Electric Institute

ELECTRICAL RESEARCH STATISTICS
THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

(Includes Investor-Owned Companies, Cooperatives, and Government-Owned Utilities)

February, 1954-1955

SOURCE AND DISPOSAL OF ENERGY—MONTH OF FEBRUARY

	1955	1954	%
NET GENERATION* (Kwhrs in Thousands)			
By Fuel Burning Plants	31,659,162	26,647,202	+18.8
By Water Power Plants	8,570,767	8,563,511	+ 0.1
Total Generation	**40,229,929**	**35,210,713**	**+14.3**
Add—Net Imports Over International Boundaries	257,072	40,802	.....
Less—Company Use	128,664	126,219	+ 1.9
Less—Energy Used by Producer	581,605	534,400	+ 8.8
Net Energy for Distribution	**39,776,732**	**34,590,896**	**+15.0**
Lost and Unaccounted for	2,122,463	1,556,259	+36.4
Sales to Ultimate Customers	**37,654,269**	**33,034,637**	**+14.0**

CLASSIFICATION OF SALES

NUMBER OF CUSTOMERS—As of February 28			
Residential or Domestic	43,354,858	42,095,818	+ 3.0
Rural (Distinct Rural Rates)	1,609,199	1,619,391	− 0.6
Commercial or Industrial:			
Small Light and Power	5,955,127	5,871,146	+ 1.4
Large Light and Power	275,702	272,023	+ 1.4
Other Customers	166,817	160,220	+ 4.1
Total Ultimate Customers	**51,361,703**	**50,018,598**	**+ 2.7**
KILOWATTHOUR SALES—During Month of February (Kwhrs in Thousands)			
Residential or Domestic	10,957,507	9,717,812	+12.8
Rural (Distinct Rural Rates)	604,768	606,296	− 0.3
Commercial or Industrial:			
Small Light and Power	6,311,922	5,745,995	+ 9.8
Large Light and Power	18,132,506	15,387,837	+17.8
Street and Highway Lighting	378,700	348,811	+ 8.6
Other Public Authorities	821,950	780,590	+ 5.3
Railways and Railroads:			
Street and Interurban Railways	225,524	229,317	− 1.7
Electrified Railroads	173,636	174,950	− 0.8
Interdepartmental	47,756	43,029	+11.0
Total to Ultimate Customers	**37,654,269**	**33,034,637**	**+14.0**
Revenue from Ultimate Customers (Thousands)	**$655,779**	**$596,986**	**+ 9.8**

RESIDENTIAL OR DOMESTIC SERVICE

AVERAGE CUSTOMER DATA—For 12 months ended February 28, 1955			
Kilowatthours per Customer	2,587	2,385	+ 8.5
Average Annual Bill	$69.33	$65.11	+ 6.5
Revenue per Kilowatthour	2.68¢	2.73¢	− 1.8

* By Courtesy of the Federal Power Commission.

THE EDISON ELECTRIC INSTITUTE BULLETIN is published monthly by the Edison Electric Institute, an association of electric light and power companies in the United States and its territorial possessions. Its affiliate members consist of members of the Canadian Electrical Association.

The objectives of the Edison Electric Institute are:

The advancement in the public service of the art of producing, transmitting, and distributing electricity and the promotion of scientific research in such field.

The ascertainment and making available to the members and the public of factual information, data, and statistics relating to the electric industry.

To aid its operating company members to generate and sell electric energy at the lowest possible price commensurate with safe and adequate service, giving due regard to the interests of consumer, investor, and employee.

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The EDISON ELECTRIC INSTITUTE BULLETIN

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CONVENTIONS AND MEETINGS

1955

MAY

22-25 National Association of Electrical Distributors 47th Annual Convention, The Conrad Hilton Hotel, Chicago, Ill.

23-24 PEA Annual Accounting Conference, William Penn Hotel, Pittsburgh, Pa.

26-27 EEI Dealer Coordination Workshop, Fort Harrison Hotel, Clearwater, Fla.

26-27 EEI Sales Personnel and Training Committee, EEI Headquarters, New York, N. Y.

26-27 PEA Relay Committee Spring Meeting, Abraham Lincoln Hotel, Reading, Pa.

27-28 North Central Electrical Association, Accounting Committee, Fergus Falls, Minn.

JUNE

5- 7 Controllers Institute of America, Midwestern Conference, Radisson Hotel, Minneapolis, Minn.

5-10 ASME Oil and Gas Power Conference, Statler Hotel, Washington, D. C.

9-10 PIP East North Central Regional Meeting, Five Channels Clubhouse, Oscoda, Mich.

10-11 IES Northeastern Regional Conference, Fort William Henry Hotel, Lake George, N. Y.

12 ECAP Management Group, Statler Hotel, Los Angeles, Calif.

12 PIP Steering Committee, Statler Hotel, Los Angeles, Calif.

13-16 EEI ANNUAL CONVENTION, Los Angeles, Calif.

15-17 ASME International Conference on Combustion, Kresge Auditorium, Cambridge, Mass.

20-23 ASME Semi-Annual Meeting, Statler Hotel, Boston, Mass.

20-24 American Society for Engineers Education Annual Meeting, Penn State University, State College, Pa.

22-24 Northwest Electric Light & Power Association Accounting and Business Practice Section, Vancouver Hotel, Vancouver, B. C.

26-28 Wisconsin Utilities Association Accounting Section, Dell View Hotel, Lake Delton, Wis.

26-29 Michigan Electric Association Annual Convention, Grand Hotel, Mackinac Island, Mich.

26-July 1 58th Annual Meeting, American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

27-29 CEA Annual Convention, Hotel Vancouver, Vancouver, B. C.

27-30 University of Michigan 8th Annual Conference on Aging, Ann Arbor, Mich.

27-July 1 AIEE Summer General Meeting, New Ocean House, Swampscott, Mass.

JULY

8 NARUC Executive Committee Meeting, LaSalle Hotel, Chicago, Ill.

1955

AUGUST

11-12 Southeastern Electric Exchange, Personnel Administration Section, Roanoke Hotel, Roanoke, Va.

15-19 AIEE Pacific General Meeting, Butte, Mont.

SEPTEMBER

11-14 Rocky Mountain Electrical League Annual Fall Convention, Grand Teton Lodge, Jackson Hole, Wyo.

12-16 IES National Technical Conference, Cleveland, Ohio.

13-14 EEI-AGA Accounting Division Organizational Meetings, Netherland Plaza Hotel, Cincinnati, Ohio.

19-21 EEI Industrial Relations Round Table Conference, Drake Hotel, Chicago, Ill.

22-23 Southeastern Electric Exchange Engineering and Operation Section Meeting, Charlotte Hotel, Charlotte, N. C.

22-23 EEI Industrial Power and Heating Group, EEI Headquarters, New York, N. Y.

26 EEI Purchasing and Stores Committee, Planning, EEI Headquarters, New York, N. Y.

29-30 EEI Transmission and Distribution Committee, Jung Hotel, New Orleans, La.

OCTOBER

3- 7 AIEE Fall General Meeting, Morrison Hotel, Chicago, Ill.

3- 5 EEI Meter and Service Committee, Hotel Syracuse, Syracuse, N. Y.

3- 5 EEI Prime Movers Committee, Hotel Cleveland, Cleveland, Ohio.

5- 7 PIP Workshop Conference, Chase-Park Plaza Hotels, St. Louis, Mo.

17-18 EEI Electrical Equipment Committee, Shoreham Hotel, Washington, D. C.

17-19 Joint Meeting AGA 37th Annual Convention and Pacific Coast Gas Association 62nd Annual Convention, Statler, Ambassador and Biltmore Hotels, Los Angeles, Calif.

20-21 Southeastern Electric Exchange Accounting Conference, Hotel San Carlos, Pensacola, Fla.

24-27 NARUC 67th Annual Convention, Grove Park Inn, Asheville, N. C.

27-28 PEA Electrical Equipment Committee, Hotel New Yorker, New York, N. Y.

27-28 Southeastern Electric Exchange Sales Conference, Biltmore Hotel, Atlanta, Ga.

NOVEMBER

3 EEI-AGA Taxation Accounting Committee, Plaza Terrace Hotel, Cincinnati, Ohio.

9-10 Pacific Coast Electrical Association Hawaiian Section Conference, Honolulu.

13-18 ASME Diamond Jubilee, Congress, Hilton and Blackstone Hotels, Chicago, Il..

14-16 EEI Accident Prevention Committee, Beaumont Hotel, Beaumont, Texas.

21-23 Wisconsin Utilities Association, Electric and Gas Section, Schroeder Hotel, Milwaukee, Wis.

Record Number of Accounting Executives Attend EEI-AGA Conference

THE three-day National Conference of Electric and Gas Accountants attracted its largest attendance in its history when more than 1100 accounting executives convened at The Conrad Hilton, Chicago, Ill., April 24-26. Sponsored annually by the Edison Electric Institute and the American Gas Association, the highly-successful Conference considered a wide range of topics including automation and advanced accounting methods.

At a general session on Monday afternoon, the delegates were welcomed by James F. Oates, Chairman of the Board, The Peoples Gas Light and Coke Co., and Gordon R. Corey, Vice President and Comptroller, Commonwealth Edison Co. Greetings and remarks from Harold Quinton, President of the Institute and President of Southern California Edison Co., were delivered in his absence by H. S. Bennion, Institute Vice President and Managing Director. Dean H. Mitchell, First Vice President of American Gas Association and President of Northern Indiana Public Service Co., greeted the Conference on behalf of AGA.

Noting the utility accountants' "increasing participation on the management team," Mr. Quinton commented on the "constructive and creative" role they are playing in helping to keep "stockholders, the public, labor, and governmental authorities of many varieties" informed on utility operating and financial matters. Simplicity and adequacy in information and reporting activities are most desirable features, Mr. Quinton said. He also pointed out that "top management must deal with summarized figures and is intensely interested in interpretive data and forecasts."

The Institute's president commended the accounting executives for the "splendid job you have done in keeping the utility industry abreast of developments in mechanization." He noted that the industry was one of the first to develop automation techniques, with "unattended or automatic hydro plants since 1922," and, in office operations, with the adoption of the extensive use of punch cards. The attention being given to electronics indicates the next step in mechanization, in both plant and office, Mr. Quinton said. Referring to electronic computers, he said that many people concerned with them feel the real benefit from these machines "will be realized in the area of more accurate and timely information rather than in the area of savings in clerical costs."

Electronic Data Processing

Dr. Howard Aiken, Director of Harvard University's Computation Laboratory, who spoke on "Electronic Data Processing" at the first general session, told the delegates: "The present art of high-speed computation was born for scientific research, and the logics of present machines were designed for this purpose. It is high time that men of business demand machines designed specifically for their purposes, instead of purchasing and attempting to use equipment intended for something entirely different."

Dr. Aiken pointed out that in "business data processing, there are vast input and output and complicated logics, but relatively little arithmetic. In mathematical processes and research, for which computers were first designed, input and output are limited and logics secondary, but there is a huge quantity of complex arithmetic."

Warning that computers should not be accepted uncritically as a panacea for data processing problems, Dr. Aiken said, "Too often we overlook the fact that computers can do nothing for us that we cannot do without them —their only advantage is greatly increased speed." He noted that "no problem exists which a computer can solve that has not first been solved by man through the instructions and data given the machine to work on."

Stressing that "business management must exercise leadership, with or without computers," Dr. Aiken said that "careful distinction must be made between judgment and decisions. Decisions represent the province of machines. Decisions are made within the framework of standard policy, which represents the essence of all past management judgments—and judgment is the province of man."

J. Gordon Ross, Rochester Gas and Electric Corp., reported on the development and use of a Customer Relations Training kit now available to electric and gas utility companies. Work on the kit began following a 1949 survey which revealed that "the majority of the companies were keenly interested in, and recognized a real need for a well-developed customer relations training program." Over 200 complete sets, including manuals, booklets, films, and records, have been purchased in recent months, he said.

"The increasing usefulness of accounting to management" and "the greater emphasis upon the antimate factors" in business enterprise were cited as "among the outstanding developments of the past quarter-cen-

tury" by A. Paul Thompson, Vice President and Treasurer, Iowa Power and Light Co., in a speech entitled "Accounting Leads to Measuring."

He noted that automation in plant operations or in increasing mechanization of offices would be "favorable to more original thinking and less human robotism. Electronic devices are not competing with us," Mr. Thompson continued, "nor are they making the role of an accountant easier, but rather they are serving us, freeing us to think, and placing a higher premium on accounting skill."

Urging his listeners "to see our business through the eyes of the chief executives, the operators, the engineers," Mr. Thompson outlined a series of "management key indicators" to aid in measuring company performance and prospects. These include administrative indicators "slanted primarily toward policy formation"; and supervisory indicators, such as manhours per customer served, which relate "to the direct handling of personnel and equipment."

Gene Flack, Sales Counsel and Director of Advertising for Sunshine Biscuits, Inc., told the delegates that "there are many favorable factors that offer unprecedented opportunity in 1955" for American business.

He called attention to a U. S. Department of Commerce survey which shows that "personal income is ahead of last year by about $7 billion." The liquid assets of the citizens of this country now exceed $200 billion," Mr. Flack said. "That is four times the figure of 1940." He commented that the $200-billion total "would purchase every share of stock of every company listed on the big board one and one-third times over."

Presiding at the general session were Omar K. Boyd, Baltimore Gas and Electric Co., Chairman of the EEI Accounting Division, and Austin T. Gardner, Delaware Power & Light Co., Chairman of the AGA Accounting Section.

Specialized subjects were discussed in small-group meetings for specific committees and groups on Tuesday and Wednesday.

Accounting Employee Relations Committees

Three discussions highlighted the Tuesday morning session of the Accounting Employees Committees. These were "Am I on the Team?" led by J. F. McCahon, Philadelphia Electric Co.; "Is It My Business?" led by H. M. Currey, Niagara Hudson Power Corp.; and "Job Enlargement," led by T. J. Blake, The Peoples Gas Light and Coke Co. At the Tuesday luncheon and afternoon session of this group, subjects for discussion and discussion leaders were "Rule Follower or Man of Judgment," led by G. P. Massengale, Union Electric Co. of Missouri; "Promotion Seniority or Ability," led by D. E. Maloney, The East Ohio Gas Co., and "What Makes a Good Supervisor?" led by G. U. Callens, The Detroit Edison Co.

Customer Accounting Committees

During their Tuesday and Wednesday sessions, the Customer Accounting Committees heard eight speeches. Topics and speakers included: "Meter Reading and Bill Forms," C. F. Wahli, Knoxville Utilities Board; "Cash Posting—Methods and Trends," M. F. Young, The Connecticut Light and Power Co.; "Is Mark Sense Meter Reading the Answer?" R. G. Maas, Wisconsin Electric Power Co.; "Hi-Lo Consumption Checks," P. F. Hlubb, Baltimore Gas and Electric Co.; "Is Your Bookkeeping Plan Out of Date?" G. E. Minister, Columbus and Southern Ohio Electric Co.; "Customer Account Numbering Systems," A. B. Wilson, Georgia Power Co.; "Estimated Meter Reading—Practices and Policies," F. A. Dauw, Iowa-Illinois Gas and Electric Co.; and "Why Do It" U. J. Farnsworth, Michigan Consolidated Gas Co.

Customer Activities Group

Uncollectible bills, budget billing, automation, and customer information were the topics for speeches before the Customer Activities Group at their session, which was held on Wednesday. T. C. Eickmeyer, The Dayton Power and Light Co.; L. J. Scully, Union Electric Co. of Missouri; J. Douglas Elliott, The Detroit Edison Co.; and R. D. Davis, The Ohio Power Co., were speakers before this group.

Customer Collections Committees

The Tuesday morning session of the Customer Collections Committees was devoted to speeches, while a panel discussion was presented at the Tuesday afternoon session. At the first session, J. E. Malone, The East Ohio Gas Co., spoke on "Review of Collection Notices and Form Letters." E. R. Knapp, Potomac Electric Power Co., had as his topic "Will Estimating Final Bills Expedite Collections?" and J. Douglas Elliott, The Detroit Edison Co., made a presentation for the Subcommittee on Electronic Accounting Machine Developments entitled "The Probable Impact of Electronics on Credit and Collection Operations." H. S. Hahn's speech was concerned with the question, "Is There a No Collector Plan?" Another speech, by L. J. Rauh, Baltimore Gas and Electric Co., was entitled "Trends from the 'Credit Picture.'"

L. J. Hamilton, Consumers Power Co., and R. B. Mitchell, The Peoples Gas Light and Coke Co., were moderators for the afternoon panel session on credit and collections problems. Panel members included P. E. Eddy, The Peoples Gas Light and Coke Co.; P. E. Ewers, Michigan Consolidated Gas Co.; J. E. Hebron, New Orleans Public Service Inc.; L. E. Pierron, Commonwealth Edison Co., and J. F. Rooney, Consolidated Edison Co. of New York, Inc.

Customer Relations Committees

N. A. Schaberg, Michigan Consolidated Gas Co., presented a paper entitled "A Customer Relations View of Collection Problems" before the Customer Relations Committees meeting on Tuesday morning. Mr. Schaberg discussed the customer relations aspects of collecting money in its broad scope rather than arrears collections only. Included in his presentation were the effect of due date variations, the pros and cons of discount, penalty and net billing, problems arising when stubs do not accompany remittances, time lapse to credit payments, and manner and degree of collection pressure on arrears accounts.

Discussing "Adequate Wiring," J. B. White, Jr., Duquesne Light Co., pointed out that inadequate wiring results in unsatisfactory operation of appliances in the homes of thousands of customers. Today, the electric utilities are faced with the seriousness of this problem, he commented. Mr. White said, "We must advocate, promote, and sell to our residential customers the importance of adequate wiring as a household necessity, since most of our customers are unaware of how badly they need it." His paper reviewed and included samples of some of the material that has been written on the subject.

Information developed from questionnaires indicates that the problem of high bill inquiries is indeed a continuing one, D. D. Ferry, Union Electric Co. of Missouri, told the group. Mr. Ferry said higher telephone saturation has made it easier for customers to communicate with companies. New appliances, as they obtained customer acceptance, have changed the characteristics of many high bill inquiries, he pointed out. However, he warned, the industry should realize that a certain number of complaints are inevitable to any prosperous business. Mr. Ferry expressed an opinion that much of the increase in high bill inquiry volume has been brought about by an increase in sales, so perhaps instead of trying to strategize the high bill inquiry out of existence, the industry should learn to live with it and to regard it as a healthy sign of expanding business.

C. T. Shoch, Pennsylvania Power & Light Co., covered four principal subdivisions in his subject, "Metering and the Customer." These were metering installations, meter testing—replacement, meter reading (including a special section on skipped readings), and meter reading personnel. Mr. Shoch presented evidence that the industry's practices are still being guided more on the basis of past histories of operations rather than from a critical analysis of their effects on customers. He stated that the broad implication of the survey which formed the basis for this discussion is that much customer relations developmental work still needs to be done in the metering function.

Topics for discussion at the committees' Tuesday luncheon and afternoon session, and leaders of the discussions were "Service Interruptions," R. W. Brown, Niagara Mohawk Power Corp.; "Service Delays," J. W. Kehoe, Commonwealth Edison Co.; "Estimated Final Bills," J. D. Kurtz, West Penn Power Co., and J. B. Hoon, United Fuel Gas Co.; "Bi-Monthly Billing," J. A. Galvin, Boston Edison Co.; and "Transferring Final Consumption," C. L. Digiovanni, The Laclede Gas Co.

On Wednesday afternoon, the committees' Subcommittees on Customer Relations Training by Films and Manual sponsored continuous showings of the training films "One Bad Apple," "Doing What Comes Unnaturally," "When You're on Stage," "Trouping the Show," and "Nobody Writes Letters Anymore."

Southern California Edison Goes "All Out" in Convention Arrangements

FOR many months, an energetic group at Southern California Edison Co. has been working on plans and arrangements to make the stay of EEI Convention delegates and guests in Los Angeles, June 13-16, a rewarding and pleasant occasion. Judging from the scope of their activities, they have thought of just about everything, and their area's already fine reputation for hospitality should reach a new high this June.

Heading the EEI Convention Planning Committee at Southern California Edison is George N. Hawley, Vice President. Following is a roll-call of his committee, with assignments, which indicates the quantity and variety of details to be covered effectively for a smooth-running Convention!

John H. Mead, Vice President—in charge of manpower for booths, sessions, and functions;

E. R. West, Assistant to the Vice President—in charge of preliminary arrangements for the Convention Hall, Beverly Wilshire Hotel, public places in hotels, and hotel reservations;

H. E. Welsh, Executive Assistant—in charge of Studio Tour, President's Reception, Race Track Tour, and arrangements for golf and sightseeing;

G. R. Haysel, Advertising Manager—in charge of arrangements for press facilities, publicity and function programs;

E. N. Husher, Executive Assistant—in charge of arrangements for bus transportation in connection with tours and sightseeing, and director of company car-pool;

W. E. South, Chief Special Agent—in charge of arrangements for security for each of the functions and sessions.

Carrying out other important duties will be members of Southern California Edison's clerical staff, and there will be on hand as hostesses a number of the company's home economists.

As is true of all good productions, near Hollywood or anywhere else, the "machinery," the people who devote countless hours of planning, consideration, effort and execution to putting on the Convention, may gain little notice from those who enjoy the results. But if the work of our hosts at Southern California Edison makes possible the verdict from those attending the meeting that the 23rd Annual Edison Electric Institute Convention was one of the most worthwhile and memorable industry meetings ever held, that will be all the praise they seek.

Depreciation Accounting Committees

The accelerated depreciation provisions of Section 167 of the Internal Revenue Code of 1954 were the principal topics for discussion at two programs presented by the Depreciation Accounting Committee.

In his paper on "Court and Commission Decisions" presented at this session, Barnard Morse, Southern California Edison Co., reviewed book reserves as a measure of depreciation, remaining life theory, consistency between accrued depreciation and annual accruals for depreciation, accelerated depreciation for emergency facilities, accrual rates, depreciation and fair value, and sinking fund method. He also presented abstracts from some of the more important decisions on these subjects.

M. R. Scharff, Consultant, New York, who spoke on "Depreciation and Retirement or Amortization of Debt Practices," discussed the relation of depreciation and reduction of debt in the accounting of publicly-owned utilities and cited examples of varying practices. He also presented some comparisons of service lives and annual depreciation rates actually utilized by some publicly-owned utilities that practice depreciation accounting with corresponding lives and rates used by private utilities.

Of all the problems presented by Section 167, R. A. Rosan, The Columbia Gas System, Inc., who spoke on "Rate Problems Under Accelerated Depreciation," felt the most critical is

the possible impact on rates. It was his opinion that the language of the code and committee reports of Congress is such that the accelerated methods of depreciation are clearly available to utilities, as they are to other taxpayers. He explored the intent of Congress in enacting this section of the code, then considered some of the specific rate problems which have been created as well as regulatory commission action to date.

A paper entitled "Case History of Liberalized Depreciation," prepared by Charles D. Davis but read by Carl Allman, The Detroit Edison Co., outlined the background and essential elements of Detroit Edison's application to the Michigan Commission and the Commission's subsequent order governing the accounting for income taxes where depreciation is computed under the sum-of-the-year's digits method. It also presented an insight into why the digits method was chosen by the company. A floor discussion followed.

At the panel session on Wednesday, E. Peske, Illinois Bell Telephone Co., was moderator. Panel members included G. T. Logan, Philadelphia Electric Co.; Barnard Morse, Southern California Edison Co.; G. D. Porter, Equitable Gas Co.; and Weldon Powell, Haskins and Sell.

In preliminary comments, Mr. Powell said that Bulletin No. 44 issued by the Committee on Accounting Procedure of the American Institute of Accountants, might not apply to utilities and that normalizing of income taxes might be desirable. Messrs. Powell, Logan, and Morse urged that serious consideration be given to booking at least some portion of the accelerated depreciation claimed as being reasonable for income tax purposes in lieu of so-called economic depreciation. Mr. Logan advised considering claiming depreciation allowances less than what the sum-of-the-year's digits or declining balance methods would produce for income tax purposes in cases where it would not be possible for a company to book such a large amount. He felt, however, that normalizing was undesirable because it would tend to create fantastic reserves of earmarked surplus which would never be drawn down. He pointed out the fundamental difference between accelerated amortization under certificates of necessity and accelerated depreciation under Section 167. Mr. Porter, on the other hand, favored special reserves for taxes. He explored some of the principal arguments for and against taking advantage of the new methods, but felt that the advantages outweighed the disadvantages.

Speakers at the Conference's general sessions program included (left to right) H. S. Bennion, EEI Vice President and Managing Director; James F. Oates, Jr., Chairman, The Peoples Gas Light and Coke Co.; Austin T. Gardner, Delaware Power & Light Co. and AGA Accounting Section Chairman; J. Gordon Ross, Rochester Gas and Electric Corp.; and Gene Flack, Sales Counsel and Director of Advertising, Sunshine Biscuits, Inc.

Additional general sessions program speakers were (left to right) A. Paul Thompson, Iowa Power and Light Co.; Dean H. Mitchell, Northern Indiana Public Service Co., and AGA First Vice President; Omar K. Boyd, Baltimore Gas and Electric Co., and EEI Accounting Division Chairman; Dr. Howard Aiken, Harvard University; and Gordon R. Corey, Commonwealth Edison Co.

Electronic Subcommittees

The Electronic Accounting Machine Developments Subcommittees met for a luncheon and afternoon session on Wednesday at which time they heard the following addresses and speakers: "Committee Accomplishments," by Walter Ott, The Cincinnati Gas & Electric Co.; "Applying an Electronic Computer to General Accounting," J. W. Balet, Consolidated Edison Co. of New York, Inc.; "Commonwealth Edison Company Electronics Story," P. W. Boyer, Commonwealth Edison Co.; "Electronic Accounting Equipment Plans," by various utility company representatives, and "Commentary on Current Tools and Approaches," J. C. Messer, The Peoples Gas Light and Coke Co.

General Accounting Committees

The General Accounting Committees session on Tuesday heard a paper by W. R. Butler, The Lake Shore Gas Co., entitled "Centsless Accounting Can Be Applied to All Utility Systems." In developing the details of this form of accounting, he pointed out the extreme simplicity of its installation. He stated that the elimination of pennies from accounting records provides a new means of keeping clerical costs down, at the same time improv-

ing the appearance and clarity of financial statements with no sacrifice in accuracy. Other results are improvements in speed and efficiency of the accounting mechanisms.

"Developing Reports for Operating Management" was presented by F. A. Going, Consolidated Edison Co. of New York, Inc. This paper stressed the importance of the accountant in the preparation of effective reports. To accomplish this end, the accountant must first determine from the recipient the need for careful consideration to assure that reports issued do in fact meet these needs. Various slides were presented as an illustration of report forms used by several companies.

A paper on "Current Methods of Reporting and Distributing Labor Costs" was presented by G. F. Jones, Potomac Electric Power Co. This report brought the industry up to date on the latest methods of reporting and distributing labor costs. It also discussed the problems of reporting labor in the field, the use of exception principle in reporting time worked, and the use of departmental or average labor rates in distributing labor costs.

M. W. Hall, Consolidated Edison Co. of New York, Inc., reported on "Techniques for Handling Deductions and Other Payroll Items." This constituted a summarization of the practices of 60 member companies for handling vacation advances, reimbursement of employees' expenses and various payroll deductions (including refunds when applicable). Also discussed were methods of combining basic payroll deductions on one card instead of the use of individual cards for each deduction. The report also summarized the treatment accorded by various companies to the new Federal income tax provisions concerning sick pay and stressed the advantages of greater use of the payroll in the processing of such items.

Shown by the "Omnibus . . . 295" exhibit are some of the committeemen most concerned with the development and success of the Customer Relations Training kit. Standing (left to right) are C. J. Berner, Wisconsin Electric Power; J. E. Naylor, Peoples Gas Light and Coke; J. G. Ross, Rochester Gas and Electric; H. R. Potts, Columbus and Southern Ohio Electric; J. C. Faris, Union Electric of Missouri, EEI Accounting Division Vice Chairman; N. F. Schaberg, Michigan Consolidated Gas; and Glenn Ray, Indianapolis Power & Light. Seated are R. F. McGlone, East Ohio Gas, and Beach J. McMillen, Cincinnati Gas & Electric. Miss Wabel, who tended the exhibit, is at extreme left.

On Wednesday, F. L. Holleman, Arkansas Louisiana Gas Co., presented a "Resume of Certain Significant Regulatory Developments." This paper discussed the Hinshaw Bill and its effect upon natural gas utilities; changes in Securities and Exchange Commission regulations, particularly from the viewpoint of reduced reporting requirements; and the two major changes from a utility accounting viewpoint which arose from the passage of the Internal Revenue Code of 1954—accelerated depreciation and deduction of a reasonable addition to reserves for estimated expenses.

C. F. Mills, Philadelphia Electric

Speakers at the General Accounting Committees session included (left to right) C. T. Dwight, The Hartford Electric Light Co., EEI General Accounting Committee Chairman; W. R. Butler, The Lake Shore Gas Co.; R. H. Johnson, The Brooklyn Union Gas Co., AGA General Accounting Committee Chairman; F. A. Going, Consolidated Edison Co. of New York, Inc.; G. F. Jones, Potomac Electric Power Co.; and M. W. Hall, Consolidated Edison Co. of New York, Inc.

Co., spoke on "What's New in 1954 Annual Reports." His review covered several hundred annual reports, primarily of the utility industry but also of industrial and railroad companies. The major portion of his discussion was devoted to the report treatment of five current topics: accelerated depreciation; the accrued expense provisions for the 1954 Internal Revenue Code; the weather during 1954, with particular emphasis on hurricane damage; developments with respect to atomic power, and the Phillips Case.

A. T. Emmons, West Penn Power Co., discussed "Prompt Reporting and Control of Construction Overruns," which he described as an integral part of the over-all problem of construction expenditures control. He discussed the principal methods for attaining such control by prompt reporting of actual costs and various techniques designed to control overruns, and described the manner in which some companies supplement reports of actual dollar expenditures with reports of physical status and also make use of commitment records. Mr. Emmons also detailed certain techniques which had been found effective in early detection and avoidance of overruns.

W. E. Sauer, The Peoples Gas Light and Coke Co.; R. M. Kelmon, Boston Edison Co., and A. L. Clark, Virginia Electric and Power Company, led a discussion on "Long Range Planning." The discussion generally developed the need by utility management for increasing attention to this subject, and the objectives and results from embarking on such a program.

Papers prepared by project committees were distributed at the program. These were under the titles of "Long Range Planning," "Present Practices in Reporting Labor Costs to Management," and "Survey of Amount of Checking of Clerical Operations Considered Necessary to Assure Adequate Accounting Accuracy."

General Activities Group

At the General Activities Group meeting held on Tuesday, D. J. Dawson, Boston Edison Co., addressed the delegates on "The New Look in Internal Auditing." Mr. Dawson referred to the new look as threefold in principle: in objective, in approach, and in benefits. The speaker's examples reflected that the new look in objective centers around the constructive rather than the protective phase of auditing. With regard to the new look in approach, Mr. Dawson said that the auditor's new responsibility requires that he develop three characteristics—those of solicitude, independence, and basic competence. He feels that expanded objectives would provide more fruitful results to management by utilization of well-trained auditing staffs. Mr. Dawson listed as benefits which he believed would accrue to companies which expand the use of the audit departments as follows: a training ground for future junior executives; the development of men with an approach which would be mellowed toward personalities and objectives toward goals; provision of men with experience and ability to obtain facts in an organized fashion and develop facility in expression of ideas; cultivation of a group whose opportunity to appraise policies, plans, and procedures often results in recommendations for improvement; and making available a group which can foster thinking in company wide terms.

Speaking on "Long Range Planning —A Management Must," S. Lloyd Nemeyer, Arthur Andersen & Co., said that utility managements are giving increasing attention to long range planning, and the accountant is particularly well qualified to contribute to this planning. Recent developments in electronic computers provide him with a forecasting tool which should prove invaluable in the near future, he believes. He pointed to nuclear power plant developments as an example of the need for long range planning where the accountant as well as the engineer may make a substantial contribution. Mr. Nemeyer warned that action must be taken before actual construction to insure recovery by the utility of research costs, experimental operations cost, and investments in conventional generating facilities.

Other speeches at this session included "Pennyless Accounting for Plant and Property Records," by W. M. Sellers, Virginia Electric and Power Co.; "Sickness and Disability Plan Payments — Another Headache for Comptrollers," by H. W. Ziethen, The Peoples Gas Light and Coke Co., and "Some Observations on Liberalized Tax Depreciation," by C. N. Ostergren, American Telephone and Telegraph Co.

Internal Auditing Committees

At a meeting of the Internal Auditing Committees held on Tuesday, Howard L. Jones, C.P.A., Illinois Bell Telephone Co., addressed the group on "Practical Applications of Statistical Sampling." Mr. Jones, by use of a viewgraph, showed a step-by-step process for developing statistical sampling techniques and their broad application in survey and examination of accounting and certain operating functions. He showed practical problems and how, by use of sampling techniques, results are quickly acquired for reaching policy decisions. It was also pointed out how supervisors, once trained in compiling results by sampling methods, are in a better position to fulfill their responsibility more effectively.

He also outlined a program for the utilization of statistical sampling results to quality control. Examples were discussed wherein their applications were applied to clerical operations to determine the validity of mass clerical operations often cumbersome to prove by lengthy audit efforts. Mr. Jones advised the group of publications and written data that is available for persons wishing to broaden their knowledge in the details involved in selection and applications of statistical formulas. A question and answer period followed the address.

At the Wednesday meeting of the group, Anton Stevens, West Penn Power Co., led a discussion on "Negotiation and Control of Construction Contracts," and R. B. Tritton, The Cleveland Electric Illuminating Co., led one on "Do You Measure Up?"

Plant Accounting and Property Records Committees

On Tuesday the Plant Accounting and Property Records Committee held a luncheon and afternoon session at which meeting "How We Do It" papers specially prepared to present the method of how individual companies solved their problems were given. Subjects covered included mechanization of electric meter records, mass property work order systems, gas service, and training plant accounting personnel. In the afternoon a forum session was held during which meeting various topics were discussed, such as records pertaining to rapid amortization of property, records required for

(*Continued on page* 155)

Making Sure of Our Commercial Progress

By Harold Quinton

President, Southern California Edison Company, and
President, Edison Electric Institute

An Address before the 21st Annual EEI Sales Conference, Chicago, Ill., March 30, 1955

OUR industry now finds itself at a most interesting point along its path of progress, particularly from the commercial viewpoint. However, before developing this thought, I want to review some happenings of recent years that have engrossed our attention and efforts and will continue to do so for some years to come. They have an important bearing on the commercial problems and responsibilities of our respective companies.

Practically every year since the outbreak of World War II in Europe we have witnessed high annual rates of increase in the sales of kilowatthours, and in the past nine years particularly, in residential sales. In the nine-year period, residential sales have made an average annual increase of 13½ per cent; small light and power sales have increased annually, 10½ per cent; and large light and power sales have increased more than 7 per cent. The composite average is about 9 per cent. These high rates of increase in the years when important construction equipment and materials were in short supply made the addition of more and more generating capacity, the connecting up of new customers, and the strengthening of transmission and distribution facilities, a matter of paramount concern to all of us.

Obtaining Additional Funds

With a total fixed capital in 1946 of about $12 billion, we shortly found ourselves spending up to $3 billion annually on construction. This brought a need for huge additional funds to be obtained from capital markets in a period when taxes, wages, and cost of materials were rising steeply, and when electric companies were faced with a necessity for obtaining rate increases under the more deliberate regulatory processes. To add to this situation, the Federal income tax of 52 per cent of net income meant that a total of $2.04 had to be raised to offset one dollar of increase in operating expense.

To augment our concern in going into the financial markets, we have been confronted with the fact that the Federal government in the period from 1939 to the present has increased its generating capacity from 170,000 kilowatts to 14,500,000 kw; and has plans to proceed with projects amounting to approximately another 50,000,000 kw. Of this amount, approximately 14,000,000 kw are now under construction, or authorized by Congress. However, if the Federal Power Commission issues licenses as now requested and contemplated by the companies, the 50,000,000-kw figure will be reduced substantially by company and local government construction, rather than by Federal government construction.

Handicaps to Free Enterprise

The law which governs the disposition of power from Federal projects permits its pricing far below its market value. The law also gives preference to local governmental proprietary power businesses and cooperatives, thereby further discriminating against our customers. Additionally, the tax laws exempt such governmental proprietary businesses from Federal income taxes and likewise the securities they issue to finance construction of their power facilities are tax exempt. With Federal taxes at present levels, all these laws constitute a heavy discrimination against our customers. They are a severe handicap to free enterprise, without which enterprise, as every American should know, genuine political freedom cannot survive. Therefore, in the interest of our customers we must put forth consistent and capable efforts to remove or minimize these unfair and burdensome provisions of Federal law. The task will require years and will be arduous, unpleasant, and seemingly unrewarding, but we must not fail the customers we serve. They, and future generations, have the big stake in preserving free enterprise in the years to come.

Present Growth

At the present time, kilowatthour output is running about 14 per cent ahead of last year, whereas a year ago the output was running about 5 per cent ahead of the year previous. This comparison looks good, and one might ask why we need to step up sales efforts at this time. Part of the answer is that the figures I have given are somewhat obscured by a large increase in use of power for national defense. Residential sales appear to be running about 11 per cent ahead compared with 10 per cent last year; small light and power sales about 8 per cent ahead compared with 7 per cent last year; and large light and power sales about 12 per cent compared with no increase the year before, but half of this last gain is due to defense loads.

The industry installed 11,000,000 kw in 1954, which was higher than the capacity added in 1953, and that addition had been the highest in history. The schedule for this year calls for 13,084,000 kw of new capacity, or about 2,000,000 more than were added last year. Of this total, power companies will install about 7,900,000 kw, and the Federal government will install about 4,300,000 kw. Other governmental agencies and cooperatives will add the balance, or about 800,000 kw.

Future Additions

For 1956 the scheduled additions amount to 8,200,000 kw, and for the years 1957 and 1958 the combined additions contemplated amount to 10,800,000 kw. No doubt that figure will be increased before the end of 1958 by a substantial margin, but the final figures for 1956 to 1958 may show some decline from the 1954-1955 levels, thus indicating that utility

managements, to keep their capital employed, are headed for a selling job of very considerable proportions.

Electricity and the Weather

Another very important factor has entered the picture. All classes of electricity sales are now greatly influenced by hot and cold weather. In some areas, the change in the shape of the annual peak load in the past nine years is almost fantastic. The influence of hot weather on demand is spreading over many parts of the country from the Gulf Coast to the cities well northward, as well as to the East and West. We have a big selling job upon us not only to maintain a good rate of business growth, but more specifically to assure the fact that this growth shall be sound and healthy, since sound sales are dependent upon the creation of a wide diversity of demands from all classes of customers and, most importantly, they are dependent upon satisfied customers.

Exchange of Knowledge

Fortunately, through the long-established practice of exchanging information within the industry, through the load studies we already have, and through means now becoming available to obtain more readily additional information concerning the make-up of individual company load curves, our commercial departments already have considerable knowledge of the subject. In the near future they will have much more specific knowledge to enable them to point their sales efforts more accurately and to fight a winning battle with load factors that now seem inclined to take a wrong turn. This fund of knowledge and experience will enable the companies to offer electric services to those who want them at compensatory rates, and thus maintain a skillful and proper distribution of costs, not only among the different general classes of customers, but among the customers in a particular class.

We must be alert and progressive in using specific knowledge in both our rate and commercial departments to assure the fact that our business prospers. With a rise in gross revenues, there is a desirable commensurate rise in net income. It is well to remember that the threat of public ownership in any utility business becomes really grave only when earnings continue for some time to be unattractive to the investment of more capital for the expansion and betterment of service to meet the demands of the public. Electric service has now become so vital to the people, both at their work and in their homes, that an assured continuous flow of expansion capital is increasingly vital to our business.

Keeping the Industry Healthy

You commercial executives have a leading role in keeping the industry healthy, for it is your planning, preparation, and execution of informed sales efforts that will hold the load curves in balance, and assure through the years ahead an adequate net income. As you well know, it is one thing for a commission to set an allowable rate of return and quite another thing for your company to earn it. No regulatory commission guarantees a fair return on capital. In addition to other considerations, sound commercial policies, well sustained sales effort, and good customer relations are requisites of continued earnings.

We Must Be Prepared

I think I am justified in saying that the trend of developments in this country in the past 20 years has favored the growth of the central station business. There has been a day when we had tougher competition for business. But we always have stiff competition for the consumer's dollar. There are many things for which he can spend it other than electrical appliances, equipment, and wiring. Also, we cannot afford to forget for one moment that there are many great technical advances taking place, and we can anticipate that some of them may very well make our competitive situation more difficult than it now is. The wheel can turn overnight. Unless we are adequately and capably manned in our commercial departments, as well as in all other departments, we can find ourselves unprepared to meet this competition.

Possibly some of you will feel inclined to dispute my remarks about the easing up of competition in the last 15 years, and you can make a good case for your contention. Perhaps you are right. My purpose is simply to emphasize the fact that this is no time to relax—but rather, it is the time to see that we have a full crew of able oarsmen, and to see that our boat is storm-worthy in every respect.

Challenging Problems

Assuredly the sales managers of our companies have a tough, challenging, and important problem in making our progress certain by continuing to increase the volume of sound and profitable uses for electricity.

Your company looks to you as the big factor in assuring that profitable growth. Likewise your company's customers, large and small, are looking directly to you to bring them new advantages in processes of manufacture and production, so as to outweigh all the unfavorable developments confronting them in production costs that now threaten, and are expected hereafter to further threaten, their profit margins.

You know it is industries that bring and support payrolls that are vitally important to communities; and whether the people in these communities are aware of it or not, their prosperity and well-being over the years ahead are heavily dependent on your know-how, and your diligence, in helping to keep the industries so important to them in a good competitive position. When payrolls go down, business suffers, and the growth of residential use of electricity also suffers.

Electricity and Household Tasks

The commercial department plays a leading role in another drama. This is a day when the high cost of personal services has made it almost out of the question for housewives to consider the employment of help in running the home. They have turned to the electric servant to lighten their burdens and make it physically possible for them to carry on without hired help. The housewife looks to the future for more applications of electricity to household tasks to lighten further the burden upon her and free more of her time from household duties. Companies look to salesmen to help bring to reality their expectation of still more practical help in the home. In conjunc-

tion with the electrical manufacturers, salesmen have made enormous contributions in the past. They have created great dreams in everyone's mind for the future, and they have their work clearly defined to continue the promotion of the application of electricity to household tasks.

What I have said about the home applies with still greater force to the farm, where the farmer continues to look to our services for assistance in his many arduous and demanding labors.

The Public Relations Aspect

There is an important, positive, and helpful public relations aspect of our commercial activities. Every member of the commercial department has to be conscious at all times of what the customer wants and how he feels, what pleases and what annoys him. The nature of your work makes it essential that you always appreciate the viewpoint of the customer to recognize not only what we think is important to him, but what he thinks is important. Commercial employees must also be fully conscious of their duty to the investor to assure the fact that everything they do directly or indirectly leads to a fair return on the capital furnished by that investor. Thus the commercial man's job requires that he have judgment and a balanced understanding of both of these aspects of his job. He must be sensitive to the need for teamwork and smooth-running cooperation between the various departments of his company, because this factor will quickly affect the attitude of the customer with whom he deals.

Role of Commercial Employees

Right now, in a time when producers of commodities are depending so heavily upon the skillful operation of electricity in the operations of fabrication, production, inspection, and packaging of the finished product, they look to our commercial departments to show them how to put electricity more profitably to work in their plants or in their operations. Similarly, with every other class of customer, it is the very nature of your jobs that you perform a constructive role in making fruitful the company's purposes and programs in the field of public and community relations. You are in a position to render specific help that means so much to the customer and, therefore, to his attitude toward the company, and that attitude will always be of paramount importance to your company's standing.

Your Committee Work

I have been greatly impressed with the success of the commercial committees of the Institute in developing sales promotional material and programs that can be profitably used by individual companies. Certainly they have helped to bring about mass selling in our industry, which I am sure has been beneficial to all of us. I also have been impressed with the work you have done, and continue to do in the field of sales training to bring better performance to the job, not only of our company personnel, but those of the dealers and distributors.

I congratulate you upon your initiative and excellent record of coordination and cooperative activities among the different segments of the electric industry. To be most specific, I mention the Better Light-Better Sight Bureau with its long continued and outstanding achievement; the Industrial Electrification Council, which is off to an auspicious beginning; the Electric Water Systems Council, which has been so productive for many years; the Electric Industry Coordinating Group, which has helped all of us to pull together and prosper together, and the Industry Committee on Interior Wiring Design, with its fine recent production, the revised *Residential Wiring Handbook*.

Your electric living calendar of promotions with its six yearly promotional campaigns has been well received as a profitable merchandising measure.

Adequate Wiring

I hesitate to try to say anything to you that might be worthwhile about adequate wiring. We come to you for information on this subject. The question is again very much in the foreground; and when we contemplate the probable load of the future home, it is obvious why this wiring question is so important. In meeting this problem, it seems to me there is a disposition for the interested parties to work together better than ever before, and this is a big advantage. It is a heartening sign that agencies such as the National Association of Home Builders, as well as the National Adequate Wiring Bureau, and the copper and aluminum companies, are disposed to work together to find a good answer to this inherently difficult problem.

Steps in the Right Direction

We have long been much indebted to those men in the several branches of the electrical industry who have worked for improvements in the wiring codes and for improvements in wiring materials and methods. I am glad to know that the Engineering Division of the Institute is at work on the long-range task of re-examining wiring methods to assure safe and adequate wiring facilities for the big loads you men are now building. I noticed in a magazine recently a picture of a small house of the future with 100 kw of connected load, and I thought of the fact that our present statistical definition for distinguishing between large light and power and small light and power is 50 kw. From this simple example, exaggerated though it may be, one gets the impression more clearly that the fundamental engineering of our wiring systems must be re-examined.

Challenging Times

You commercial managers, in conjunction with the electrical manufacturers, have made enormous contributions to the American way of life. In doing so you have also created great expectations. You have cut out for yourselves the hard but satisfying task of continuous development and improvement to make your company more and more indispensable to its customers. Company managements look to you with confidence, not only to keep our business growing, but to strengthen and advance the company's position as a useful and deserving servant of the public —a constructive and aggressive force for the good of every community. These are challenging times for all of us. Certainly they are for you commercial leaders. I congratulate you on being engaged in work that is productive of so much good for so many people.

Electric Heating and Year-Round Air Conditioning and the Heat Pump

By Philip Sporn
President, American Gas and Electric Company

An Address before the 21st Annual EEI Sales Conference, Chicago, Ill., March 30, 1955

THE importance of the electric heating and year-round air conditioning market to the utility industry, and the significant contribution that the heat pump can make toward the development of this market is, or should be, so obvious that further discussion would appear superfluous. And yet, since the obvious is not necessarily the inevitable, it may not be amiss to review briefly and to point out the underlying reasons for the importance of electric year-round air conditioning, and to thus perhaps help bring about the much needed and long past due commercial enthusiasm for that idea and for the heat pump.

Early Evaluations

Speaking before the 2nd Annual Convention of the Edison Electric Institute at Atlantic City 21 years ago to present the case for the heat pump at a time when additional load was very badly needed by all utilities, I said the following:

"If electric heating is ever to overcome the handicap of, first a 70 per cent heat loss involved even in the best steam generating plant, and even more important, the excessive costs of the large distribution facilities necessary in any straight 1:1 heat conversion process when going from electrical to thermal energy, then most certainly the reverse refrigeration cycle or the so-called heat pump offers that possibility."

Ten years later, in June, 1944, speaking before the 12th Annual Meeting of the Edison Electric Institute, I stated:

"The all-electric home can be brought about and made as real as electric lighting in almost every American home. In the vast majority of cases the home will not earn the right to be called all-electric until it is heated electrically. The heat pump appears to be the only practical means known today, or discernible on the horizon, to bring this about."

A great deal has happened in the last 21 years, but the all-electric home must, more than ever, be the goal of every electric utility system. It was apparent a quarter of a century ago, and it is equally clear today, that this cannot come without electric heating and year-round air conditioning or, in the simplest manner, by the heat pump. The one change that has taken place during the past few years is that it is possible in a good many cases to use radiant or resistance heating and year-round air conditioning, but the heat pump potentials for supplying this year-round service appear greater than ever. I would like to present and discuss 10 cogent reasons why it appears necessary, now more than ever, to concentrate our commercial efforts on the all-electric home by any means but particularly by the heat pump.

1. *Summer air conditioning in homes, in offices, and in commercial, industrial, and institutional buildings is rapidly becoming an accepted must and, for the most part, it will be electric.*

This is an air conditioning age and the air conditioning industry is expanding at a tremendous pace. Annual retail sales, of over $2 billion, are expected to reach over $5 billion by 1965. About 50 per cent of these totals will be central plant equipment and the larger packaged self-contained units for commercial and industrial applications. The remaining 50 per cent of the sales will consist of room coolers which have expanded from 43,000 units in 1947 to 500,000 units in 1953, and to the year-round packaged conditioners which have risen from virtually nothing in 1946 to about 120,000 units last year. This means that the sales of room coolers have multiplied close to 12 times in the last six years, which represents an average increase of about 50 per cent per annum compounded—a truly remarkable growth.

This air conditioning growth is bound to continue. Today at least 40 per cent of the prominent contractors, including three of the larger prefabricated home builders, are offering year-round conditioning to the public, and there are some 80 manufacturers involved in one or more phases of this air conditioning business. It is not unrealistic to believe that year-round air conditioning will be standard equipment in practically all new homes within ten years, and the non-air-conditioned homes will be obsolete in most parts of the country. This residential air conditioning market really has terrific potentialities. Since 1950, about 3,000,000 new homes have been built and 1,000,000 new homes are currently being constructed each year. And this too is bound to continue. Don't forget: last year over 4,000,000 new babies were born in the United States—the largest annual baby crop in our history—and this has been going on for some time. In addition, about 67 per cent of our homes are now over 20 years old and 50 per cent are over 30 years old, of which at least 10,000,000 are excellent prospects for year-round air conditioning.

Prospects Equally Enormous

The prospects for commercial and industrial air conditioning are equally enormous, and installations can be expected to increase in about the same proportion as in the residential field. Practically all major office buildings, constructed since World War II, have complete air conditioning and this trend will continue. In addition, about 15 per cent of the desirable commercial office spaces are now air conditioned in many areas. This, according to many real estate authorities, is the critical percentage when other owners will be forced to also install air conditioning to maintain rent levels and

to keep their tenants. This, too, is bound to develop as a large market for air conditioning.

The significant thing about this summer air conditioning load, if the present trend continues, is that practically all of it will be electric and will be added to the lines of the electric utilities.

2. *The development of the summer air conditioning load has already had a deep and not too favorable effect on electric utility systems which is bound to be aggravated in the future.*

It is very important to evaluate the probable extent of this summer air conditioning growth and its effect upon the electric utilities. Charting the future growth of such a young industry as air conditioning, which is faced by a number of indeterminable factors, is admittedly a difficult and precarious task. Fairly reliable predictions can be made, however, on the probable growth of air conditioning as well as the probable expansion of the electric industry itself, if they continue to follow the trend of the last two or three years. The 1954 non-coincident peak demand of the total electric utility load was about 85,000,000 kw and the predicted peak for 1965 is 184,000,000 kw. In comparison, the estimated 1954 and 1965 non-coincident air conditioning demand, including necessary auxiliaries, is equivalent to 20,000,000 and 59,000,000 kw, respectively. In other words, the 1954 summer air conditioning load was about 24 per cent of the total electric non-coincident peak demand, but the 1965 air conditioning load is expected to increase to about 32 per cent of the total electric demand. On the other hand, the corresponding estimated 1954 and 1965 summer air conditioning kilowatthours for the two periods account for only about 5 to 7 per cent of the total electric energy sold.

Air Conditioning Load

From this brief comparison of the demand and the corresponding energy components, it is apparent that the air conditioning load is apt to have a high demand and a low annual load factor. The average annual load factor (on a non-coincident basis) for the above predicted summer air conditioning load will range, in all probability, between 6 and 15 per cent. This is far below the 64 per cent present-day annual load factor for the utility industry's total electric load.

Therefore, summer air conditioning, under the present trend, will continue to be a difficult, if not an almost too difficult, load to serve profitably. It not only has a high demand and a low annual load factor, but the highest demands will occur on the relatively few extremely hot days during the summer months, when the load carrying capacity of the whole system (generation, transmission, and distribution) is considerably lower than it would be on colder winter days. The growth of summer air conditioning will inevitably, therefore, create a summer demand peak on many of the electric systems. In fact, summer peaks are already being experienced in a number of the southern and southwestern areas, even with a present relatively small saturation of air conditioning. During July, 1954, the sharpest and most widespread increase in system demand in the industry's history occurred in a number of the states from Kansas and Missouri southward to the Gulf. This electric demand, which ranged from 13 to 23 per cent above the previous year, increased in direct proportion to the rise in outdoor temperature. With the increased public acceptance of air conditioning, this condition will not only get much worse but will expand to the northern areas as well.

3. *The solution to the high summer air conditioning peak, with the corresponding low annual load factor, is a winter load—electric heating.*

The obvious solution is to develop winter load, and the most logical winter load on the horizon is electric heating. The two most feasible possibilities for electric heating in the residential field are resistance heating and the heat pump. If the wide public acceptance of summer cooling materializes, as predicted, residential cooling will become an impressive percentage of the total residential electric load. Electric energy for residential use now accounts for about 26 per cent of the total industry sales. Residential summer air conditioning, on the other hand, is now only 1.8 per cent of the total residential consumption, but by 1965 this figure is expected to increase to 10 per cent. With the addition of electric heating, the summer cooling kilowatthours can be doubled or tripled without appreciably affecting the maximum kilowatt demand. Assuming an average fully insulated house, for instance, the residential consumption for electric winter heating could very easily be in the range of 12,000-22,000 kwhr (depending on the type of electric heating system and the geographic location), as compared with the 1,000-3,500 kwhr normally consumed for comfort cooling. This additional electric heating load would not only raise the annual load factor from the 6-15 per cent expected for cooling only to 20-25 per cent, but it practically assures an all-electric residence—a residence with a 20,000-32,000 kwhr annual consumption instead of 2,600 kwhr which is the present average.

4. *In the coming quadrupling growth of the electric utility industry, it becomes almost mandatory to develop the year-round air conditioning load to keep the proper balance and stability in the financial structure, and in revenues and earnings.*

The driving force behind the destined and coming quadrupling of the country's output and use of electric energy is our dynamic economy. In this, the growth in population of close to 60,000,000 in the next two decades will play an important part. This 40 per cent increase in population will, it is now generally agreed, be accompanied by an increase in the labor force of perhaps 20 per cent and an increase in the hours worked of perhaps 10 per cent.

Increased Productivity

How will this additional 60,000,000 be taken care of—raised, educated, fed, clothed, housed, and entertained at the higher living standards—with only this modest increase in labor working hours? The answer is increased productivity by more intensive and effective use of tools, equipment, and electric energy.

Because of this resulting disparity in rate of growth between the use of industrial electrical energy and population, it is obvious that, if the revenue and income and financial structure of the utilities are to stay in balance, extra special efforts will have to be made to keep residential or domestic energy sales in step with industrial growth. Without the year-round air conditioning load this seems almost impossible.

5. *The heat pump is the ideal solution for year-round air conditioning*

of homes as well as commercial establishments.

The heat pump can furnish the winter heating requirements which will not only result in additional load without any appreciable increase in the kilowatt demand, but will also reduce the amount of electricity consumed by one-third to one-fourth of that required by electric resistance heating. I know some have been disappointed in the slow progress of the residential packaged heat pump unit to date. So have I. But I believe more rapid progress can now be expected. The manufacturers are making good headway and several are of the opinion that within four or five years, as quantity production increases, the first cost will come down sufficiently to put the heat pump in a much more favorable competitive position in the mass market with the various fuel fired summer air conditioner combinations.

Commercial Potential

The residential field is a potentially large and attractive market for the heat pump, but the commercial market is equally attractive and can result in many practical applications right now. Year-round air conditioning is accepted, if not absolutely necessary, in modern commercial structures, and the heat pump has proven to be very satisfactory and is competitive with any other type of system in this field, both in first cost and operating cost. In addition, in practically all installations investigated, the commercial heat pump has considerably improved the annual load factor over that obtained with a conventional summer cooling system.

6. *Promotion of year-round air conditioning and the heat pump does not preclude developing the electric resistance heating market where heating only can be sold.*

In areas where complete year-round air conditioning is not yet fully accepted, the electric utilities still have another ideal form of heating to promote and sell. This is electric resistance heating. Some utilities are of the opinion that even a relatively small degree of saturation of electric resistance house heating will be fatal. This is not necessarily the case, if certain installation precautions are taken and if other loads are developed to offset the winter demand. Electric resistance heating can be sold and is being sold in direct competition with fuel fired equipment. The operating cost, in most cases, is not objectionable and electric resistance heating has many desirable inherent advantages to offer over fuel fired equipment.

Indicative of what can be accomplished in promoting electric resistance heating are the 1,000 house heating installations which have been added to the American Gas and Electric System in 1954, during the first year of the promotion of this load. This is not a staggering increase, but it still is more residential resistance heating than has been added in all previous years' history of the company. And this is encouraging, and shows promise for the future.

7. *Promotion of electric resistance heating and of the heat pump is essential to protect the residential appliance market—to assure continuous and increasing sales of electric ranges, water heaters, laundry driers, incinerators, and other desirable electric appliances.*

There is a strong trend at present toward gas for residential heating and electricity for summer air conditioning. The electric utilities are in a reasonably favorable position to continue to get a major portion of the cooling load—both residential and commercial. They have had, so far, little reason to be concerned about the gas generated cooling unit, such as the recently mentioned gas driven heat pump. And, perhaps, there is little to be apprehensive about in the future, provided the summer cooling electric load can be made profitable so that it can be sufficiently encouraged. But it is evident that electric utilities cannot continue to profitably serve summer cooling installations without getting a considerable portion of the heating load as well.

The gas companies are adding more than 1,000,000 new house heating customers a year and, at the end of 1954 more than 14,000,000 American homes were heated by gas, which is about one-half of the residential gas customers in the country. Taking the fullest advantage of this strong trend toward gas heating, the gas companies are not only capitalizing on it to obtain an impregnable position in that market, but are utilizing that position of advantage to strongly promote and push gas cooking, hot water heating, laundry drying, and other appliances, which are now being taken for granted by many electric utilities as inevitably electric. This promotion, if successful, could seriously jeopardize the retention and badly needed expansion of the electric appliance market.

Of course, we all know that there are many extremely effective ways of meeting such competition. But I am sure you will agree that the most effective way of solving the problem of dual utility services is to make the home all electric. This means electric heating. Thus you again come to the one answer—electric heating and year-round air conditioning or, at its best, the heat pump.

8. *Getting a substantial share of the heating market and bringing about a condition where a reasonable percentage of American homes and commercial establishments is completely air conditioned year-round electrically is not going to be an easy task.*

It is not to be inferred that the winter heating load can be obtained by the electric utilities for the asking. Nothing could be farther from the truth. The gas industry will do everything within its power to retain the lead in the heating market. Because of the large network of gas pipelines throughout the country, the gas industry must continue to obtain a large volume of winter heating load to remain economically sound. In addition, the gas companies would like to get a large portion of the cooling load as well, in order to balance this heating load and thus improve their annual load factor. And, as I pointed out a moment ago, they are aggressively promoting many appliances to not only recapture markets which have been lost, but to open up new markets, like summer cooling, which at present is considered exclusively electric. The gas industry is just as anxious to have all-gas homes as we are to have all-electric ones.

9. *Electricity, particularly when backed by the heat pump, holds many advantages in the competitive struggle with fuel burning equipment for the year-round air conditioning market.*

Electric heating and year-round electric air conditioning, and particularly the heat pump, have many inherent advantages: ease of close control for added comfort; cleanliness; simplicity and convenience; safety—

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1954—Springboard for the Future

By Harllee Branch, Jr.

President, Georgia Power Company, and
President, Southeastern Electric Exchange

An Address before the 22nd Annual Meeting, Southeastern Electric Exchange, Boca Raton, Fla., March 21-23, 1955

FOR the first time in the history of the Southeastern Electric Exchange, going back nearly a quarter century, we now have as a member every electric utility company in the area we have undertaken to represent. This total representation is very gratifying. I like to think it is symbolic of our determination to meet our common problems with a more united effort than ever before. This spirit of unity is one of our greatest needs, and I hope it will grow stronger year by year.

Significance of Diamond Jubilee

At our meeting last year, we were informed of plans for celebrating Light's Diamond Jubilee. At that time the plans were mostly in the formative stage and little actual work had been done. I am happy to report that the member companies of this Exchange were in the forefront of the industry's promotion of this significant event, including the national television show last October, which climaxed the Jubilee celebration. I mention Light's Diamond Jubilee not only because it was one of the great events in our industry's history, but also because it serves to introduce the theme of the program for this meeting. The Diamond Jubilee of Light was, first of all, a tribute to Thomas A. Edison; second, a chronicle of the growth and progress of the electric industry during the 75 years of its existence; and, third, an attempt to evaluate our present position and to predict our future.

The theme of this meeting of the Southeastern Electric Exchange was suggested by the last of those three objectives. The theme is "The Years Ahead for the Electric Industry." For my own remarks I have chosen the title: "1954—Springboard for the Future."

The year 1954 was one of unprecedented growth and physical progress for our industry, not only in the Southeast but in the nation as a whole. Actually, progress in our area was somewhat greater than in other sections of the country due to the dynamic and progressive region in which we serve.

Here are a few statistics to illustrate the fact that we are growing and expanding in accordance with the needs of our area, that we are increasing our usefulness to our customers, and that we are, generally speaking, enjoying a period of relative prosperity.

At the end of 1954 the electric utilities comprising the Southeastern Electric Exchange had in service 14,045,322 kw of generating capacity. Of this capacity, 1,744,685 kw, or about 12 per cent, was installed during 1954 alone.

More than a million kilowatts of additional generating capacity are scheduled for installation in our region in 1955, and 941,500 in 1956.

During the three-year period, 1954-56 inclusive, we will have increased the generating capacity of our region by 30 per cent.

Our construction expenditures for the year 1955 will be slightly more than a half billion dollars, and in the year 1956 they will be about $414,000,000, or better than $900,000,000 for the two years.

Number of Customers

The number of customers served by the Southeastern Exchange companies at the end of 1954 was 5,834,062. Of these customers, nearly a quarter million were added in the year 1954 alone. Another quarter of a million are expected to be added this year.

Our revenues last year came to more than $941,000,000 and our kilowatthour sales were more than 62 billion.

The growth and expansion of the past few years is expected to continue at about the same rate in the period just ahead.

Our Southern region has always been noted for the high average use of electric service by residential customers and for the low average price per kilowatthour which is both the cause and effect of this high usage. In 1954, we had one company whose average residential use exceeded 5,000 kwhr. The average use of six other companies exceeded 3,000 kwhr. In one instance, the increase in the average residential use for 1954 alone was 618 kwhr, and in three other instances the increase exceeded 300 kilowatthours. One of our member companies had an average residential rate per kilowatthour of less than 2 cents. Several were below 2¼ cents. I think the growth of the highly important residential load will continue, perhaps at an accelerated pace, in our Southern region, as electric heating and other applications are developed and as our sales efforts are intensified.

Financial Statistics

To finance their expansion programs, our Southeastern Exchange companies sold more than $646,000,000 of new securities in 1954. Additional financing in comparable amounts will be required for the years 1955-57. Every penny of these gigantic sums has come, and will come, from the savings of private investors. It is a symbol of their confidence in our region, our companies, and our American private-enterprise system. Anything that jeopardizes the security of these investments for political considerations is a fraud against these investors and should be plainly denominated and opposed as such.

In 1954 our member companies paid more than $127,000,000 of taxes to the Federal government, and more

than $76,000,000 to state and local governments, or a total of more than $200,000,000 in taxes. It is time someone asked the politicians why the private companies which thus contribute so greatly to the support of our national and local governments should be subjected so frequently to political abuse and discriminatory treatment in favor of competing groups which bear no such public burdens.

Our 1954 earnings were generally satisfactory in the sense that most of our companies were able to earn the sort of return that regulatory commissions have come to consider reasonable. Three major increases in electric rates were sought by companies in our area during the year. In one case, an increase of $4,800,000 was granted without opposition, bringing the company's earnings up to an estimated 6 per cent. The other two cases are still pending. I believe most of the regulatory commissions in our region are becoming increasingly aware of the need for allowing public utilities to earn fair rates of return so that they may finance under favorable conditions to meet constantly-expanding public demands for service. Most of the commissions seem to realize that a poor and shaky utility is no good to anyone—neither to its employees, its customers, its owners, nor the public.

A Disturbing Paradox

And now we come to a strange and disturbing paradox. We are providing a more efficient and dependable service for our customers than ever before. We have done a better job than almost any other industry to stabilize, and even reduce, the price of our service in the inflationary period since World War II. We are investing more and more millions in bigger and better facilities for the public service. We have avoided power shortages in years of unprecedented demand, and in spite of extreme drought, whereas these conditions produced service curtailments in some areas served by tax-subsidized groups. We have done more than almost any other agency, public or private, to promote the industrial, agricultural, economic, and social development of our service areas.

Anyone reviewing these accomplishments and contributions to the public welfare would expect to find a favorable political climate for our industry. However, the simple fact is that the political position of our industry is not good.

Poor Political Standing

There were evidences during 1954 that our political standing may have worsened. During the year, our industry was under continuous and vigorous attack by demagogues, left-wingers, and parlor pinks. Timid politicians either abandoned us or remained silent and acquiescent in the face of these assaults. Witness the hesitancy or retreat on Hell's Canyon, Niagara, Clark Hill, Dixon-Yates, and other issues. The simple truth is most of the public takes our contributions to their welfare, as well as our service, for granted. While most Americans prefer business-managed and investor-owned utilities to socialized power, nevertheless the public is poorly informed and badly confused regarding present serious threats to our industry's survival. Generally speaking, we have done a spasmodic and not too effective job of bringing the issue of socialized power to the attention of the rank-and-file voters. We have been too busy and too little-unified to do the kind of job that is badly needed.

On the other hand, there is a compact, well-organized public power movement which is made up of those who are promoting the interests of municipal electric systems, public power districts, rural cooperatives, valley authorities, reclamation projects, and others. This group is a cohesive one and while the interests of the various segments may differ to some extent, all unite in a common cause whenever and wherever the welfare of any phase of public power is at stake.

Further Alienation of REA Co-ops

The year 1954 saw a strengthening of the cohesion of this group and a greater unification of its activities in our own region and elsewhere in America. In 1954, most of our companies watched helplessly while the local REA cooperatives which we had tried to assist to the fullest possible extent were further alienated from us. I am afraid we are going to see a further intensification of this trend in 1955 and in the years ahead unless we stand up and boldly answer the propaganda being circulated against us.

Let me report that no less than 238 rural electric cooperatives were served by our member companies in 1954. These cooperatives, in turn, supplied electricity to more than 1,100,000 customer-members. Our companies made wholesale energy available to the co-ops at extremely low rates. Four of our companies supplied wholesale energy to them at rates between 5 and 5.9 mills. One company supplied energy to them at less than 5 mills. Others charged the co-ops rates considerably below the national average for that class of service. In spite of these low rates, and in spite of the millions of dollars which we have invested in facilities to serve the co-ops, we saw them drawn steadily away from us as a result of the blandishments of NRECA and some local co-op leaders.

In my own state the Clark Hill issue was kept in a state of turmoil through the activities of certain national and state leaders of the NRECA and the Georgia Electric Membership Corp. and through the timidity and procrastination of Federal office-holders.

No Compromise of Principles

There were numerous and persistent efforts by "friends" (I quote the word), inside and outside government, to help us solve this dilemma by suggesting a compromise of principles essential to our survival. Their efforts, sometimes born of an unfamiliarity with our situation, remind me of the story of a man in Atlanta who contracted tuberculosis. He failed to respond to medical treatment and his condition grew steadily worse. At length he was sent to Colorado to see if the climate there would improve his condition. He still did not respond to treatment and eventually died out there. The body was brought back to Atlanta for burial. The undertaker was a gifted man who made the body very presentable for burial through the use of paraffin to relieve the wasted, gaunt appearance of his face and through coloring his lips and cheeks. His family was

viewing the body for the last time before the funeral services. The widow turned to her son and observed, "Son, I believe that trip out West did your pa a lot of good." Some of the compromises which have been represented as being designed to "do us a lot of good" would, in my humble judgment, only prepare us for eventual burial.

The NRECA held its annual convention in Atlantic City a little over a month ago. The cooperatives, according to Clyde Ellis, as reported in *Electrical World*, will attempt to achieve the same ends in the atomic energy program "that we have sought and achieved in the water resources program." What this means is that they will try to have a preference clause written into any agreements or licenses under which our industry produces electric power from radioactive materials subject to control by the Atomic Energy Commission. I am informed that discriminatory provisions of this type are included in the first drafts of the new AEC Regulations, just off the press.

The NRECA convention also adopted resolutions calling for:

Congressional legislation to prohibit the deduction of private utility advertising costs from income before taxes;

Appropriation of additional funds for construction of multi-purpose hydro projects in various parts of the country;

Congressional authorization for immediate construction of fuel-powered generating facilities to firm up the Missouri River hydro developments;

Federal construction of transmission lines in the Southeastern Power Administration's area to transmit power from Clark Hill, Jim Woodruff, and Kerr Dams;

Cancellation of the Dixon-Yates contract by the AEC and denial by Congress of any appropriations to implement the contract; and

Repeal of legislation permitting accelerated tax amortization.

If given effect, and coupled with the preferential and discriminatory treatment already enjoyed by the co-ops and other tax-subsidized groups, these resolutions will hobble and ultimately destroy the investor-owned and business-managed electric utilities. They should be much in your thoughts as you talk and plan here for our industry's future.

I would like to repeat one point in connection with the government-financed power movement which I think is significant. The segments of this alliance are ever ready to run to one another's aid and defense on any issue regardless of whether there is any direct or even indirect issue affecting the group as a whole. For example, the Dixon-Yates affair started out as a proposed contract between the Mississippi Valley Generating Co. and the Atomic Energy Commission, with TVA as an indirect participant, acting only as a transmitting agency. On the trumped-up charge that the Dixon-Yates proposal would adversely affect TVA, the Tennessee politicians started the fight and were promptly joined by the other public power groups from all over America. Within the space of a few months we saw NRECA officials conducting a series of regional meetings of REA co-ops, one of the principal purposes of which was to induce each group to adopt a resolution in opposition to the Dixon-Yates contract, an issue in which, left to themselves, they could have had little interest. At the NRECA national convention another such resolution was adopted, as I have just mentioned.

I suggest that, while we are enjoying a period of gratifying growth and expansion, while we are constantly increasing our usefulness to the areas, while we are enjoying a period of relative prosperity, we are at the same time being increasingly disadvantaged in the fight for our ultimate existence. The mere election of a new administration in Washington has not and cannot save us. We will survive, if we survive, by our own cohesion, courage, and vision.

We cannot expect an improvement until we begin to win this battle of ideas between private enterprise and collectivism in the electric industry. This is a battle we must win or we are doomed to extinction, and the whole American system of free enterprise with us. We can win this battle only by speaking out boldly and as forcibly as we can on every occasion that presents itself and with all the persuasiveness of which we are possessed.

Air Conditioning and the Heat Pump

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safety to life and safety to property. All these are present today. But electric air conditioning has another advantage of inestimable value. Oil and gas reserves are large but they must be considered as transient fuels which will only last for decades. Electric energy founded on hydro and coal, on the other hand, is assured for centuries, and, with the coming of nuclear fuel, for thousands of years. The energy future is an electrical future.

10. *With the development of a substantial electric year-round air conditioning load, the means will become available to utilities, manufacturers, contractors, and dealers to develop the load to its fullest potentialities.*

The fact that electric heating and electric year-round air conditioning and the heat pump do not play a larger part in either the utilities' or in the American economy is due to a good many reasons. The failure of the entire electrical industry to visualize the importance and potentialities of this load is perhaps the most significant. But that should be no barrier to going ahead. We have the necessary electric appliances and products for today's new homes and people want them. It is astonishing how much excitement and interest is created whenever a well designed all-electric home is exhibited. All electric homes can be and are being sold. And the utilities have the capacity and the technical means to serve them profitably. The fact that the market potentials were not visualized ten or 20 years ago ought to act as additional stimulus and incentive to get the load now.

With the pickup in market there will come the means to carry out the further research and market development to improve product, improve performance, and lower cost.

The future is with us. The year-round electrically heated and air conditioned home, the heat pump conditioned home—the all-electric home—is, for the future, obvious. Let us bestir ourselves: let us make the obvious of the future the reality of today and tomorrow.

Let Us Recognize Our Future Problems

By Philip A. Fleger
Chairman of the Board, Duquesne Light Company

An Address before the 21st Annual EEI Sales Conference, Chicago, Ill., March 31, 1955

FOR many years, sales of electric energy have been expanding at a rate which represents a doubling every decade. And every possible effort must be made to sustain this pace because rapid expansion is probably the most essential element in our business. But, even if we succeed in doing this, and it is not a certainty that we can, unless something is also done to overcome certain trends affecting our cost of doing business, we may encounter difficulty in maintaining a satisfactory margin of profit without resorting to more general rate increases.

In spite of the enormous increase in payroll costs, material prices, and taxes during the past quarter of a century, the electric utility industry is delivering energy today at an average price which is only about three-fourths of what it was 25 years ago. And, of course, the average price of residential electricity has gone down much more —it has been cut in half in that period. Very few businesses can match this record.

Adverse Trends

Unfortunately, a close inspection of what has been happening to the factors which have had the greatest influence on our cost of doing business discloses some significant adverse trends. It shows that in some of our most important areas of cost control our effectiveness has been decreased substantially and is beginning to level off. It also shows that the rate of return on our investment, which is much lower now than it was some years ago, is again declining.

In the middle '20's our industry was earning in excess of 7 per cent on its investment. Today we are earning less than 6 per cent. The biggest part of the decrease occurred in the early '30's and was largely due to the depression. Substantial declines also were experienced in the first part of World War II and in the early post-war years. These declines were caused, in part, by the inflation touched off by the war.

At the end of World War II, money rates were substantially lower than they were in the middle '20's. This has tended to offset, to some degree, the effect of the decrease in our return in that period. But in the past few years money rates have risen, and it is generally considered there is little likelihood they will undergo any material change in the foreseeable future. If this should prove to be the case, any further decrease in our return will have important adverse consequences.

Source of Capital Funds

Utility plants are expensive in terms of the revenue they produce annually. In fact, it takes the average utility about six times as long as the average manufacturer to recover its investment in new plant. So we have to obtain most of our capital funds through the sale of securities. As a result, the cost of servicing the capitalization of the average electric utility—depreciation, debt service, and dividends—is very large. It amounts to about one-fourth of gross revenues.

Therefore, any material increase in our cost of money, such as will inevitably result from a decrease in our rate of return in a relatively stable money market, will substantially increase our cost of doing business. This serves to emphasize the importance of certain adverse trends affecting our cost of producing and distributing electricity.

Of the various means which the electric utility industry has used to combat rising costs, by far the most effective have been (1) improvements in plant design, (2) reductions in reserve capacity, and (3) increases in load factor. The effect of these things on our cost of making electricity has been tremendous.

For example, although construction costs have more than doubled, after adjusting for write-offs in plant account incident to the adoption of original cost accounting, our industry's investment in plant per kilowatt of capacity is not very much different today from what it was in the middle '20's. This has been made possible by improvements in design, together with the rapid growth in our load which permitted us to capitalize on the improvements and to use larger generating units.

In the past 25 years, the price of fuel has gone up about 50 per cent. But improvements in the design of generating stations have reduced our average heat rate to such an extent that our fuel cost per unit of energy is just about the same now as it was 25 years ago.

The effect of reductions in reserve capacity and increases in load factor, and the greater use of our facilities which this produces, is equally impressive. Even though our investment in plant is no lower, our fixed charges (depreciation, income deductions, and preferred dividends) per unit of energy today are about half of what they were in the mid '20's, largely because of reductions in reserve capacity and increases in load factor.

The combined effect of improvements in plant design, reductions in reserve capacity, and increases in load factor on payroll costs has probably been the most important factor of all in keeping down the price of electricity. Complete wage data for the electric utility industry is not available for the years prior to 1932. But the increase in wage rates in the manufacturing field, which accounts for about one-fourth of all the workers in this country, probably provides a fairly good measure of what has happened to wages in our industry in the past 25 years. During that period wage rates in the manufacturing industry have increased about 200 per cent. But our productivity, in terms of man-hours per unit of energy, improved about 300 per cent in the same time.

Increased Costs of Production

In the past ten years, though, the electric utility industry has not been able to keep pace with rising costs. During that time our total cost of making electricity (operating expenses, taxes, and fixed charges) has increased almost 10 per cent. Consequently, almost all electric utility companies were compelled to make the first general rate increases in their history.

There is a natural tendency to at-

tribute the recent increase in our cost of making electricity entirely to the unprecedented inflation touched off by World War II. As a result, there is a disposition to assume that this change, and the decrease in our rate of return which it has produced, is purely temporary. But that might be an oversimplification of the problem.

The inflation we have experienced since 1939 is, without a doubt, one of the major factors, probably the major factor, behind this change in our cost of doing business. It is also entirely reasonable to assume that the same degree of inflation will not be repeated in the foreseeable future.

Estimating Future Cost Trends

But there are other things which must be taken into consideration in trying to estimate the probable future trend of our costs. In the first place, we are bound to assume that the general price level will continue to rise in line with the long-term trend of the past. In the second place, an examination of past experience in the areas in which we have been most successful in combating rising costs clearly indicates that if current trends in these areas continue, our ability to offset rising costs will be substantially less than it was prior to World War II.

Consider the matter of heat rate. Between the early '30's and the early '40's we reduced our average heat rate in an amount which represents an improvement of about 3½ per cent a year; in the next ten years the improvement amounted to about ¾ per cent per year; and in the last ten years the improvement was about 1¾ per cent annually. Our progress the last ten years reflects the relatively large amount of generating capacity which has been constructed since the war, whereas our experience in the preceding ten years reflects the relatively small amount of generating capacity we were able to build in that period because of wartime restrictions.

Leveling Off of Improvement Rate

The important thing is that the rate of improvement in fuel requirements per unit of energy has decreased substantially, and, on the basis of the long term trend, it is beginning to level off. Furthermore, it must be borne in mind that as our fuel cost in per cent of total expense declines, each per cent reduction in our average heat rate has a correspondingly smaller effect on total cost. Therefore, although we undoubtedly will be able to effect further improvements in our fuel requirements for some years to come by building bigger and better generating units, if the recent trend in this field continues, the benefits we will be able to obtain from this source in the future will be of considerably less relative importance than those realized in the pre-war years.

The opportunities for savings from reductions in reserve capacity are even less favorable. Industry reserve generating capacity was cut from about 50 per cent in the mid '20's to about 20 per cent at the beginning of World War II. During the war, because of the effect of wartime restrictions on the construction of generating plants, the margin dropped to about 6 per cent. Since the war it has gone up to a little under 20 per cent. The difficulty here is that reductions in reserve generating capacity have been made possible largely by interconnections, and by cutting down the amount of time that generating capacity is out of service for breakdowns and scheduled repairs. We have just about exhausted the opportunities for reducing reserve by interconnection, and for some years now there has been very little reduction in the total amount of time generating equipment is out of service for both forced outages and scheduled repairs.

Limited Margin of Reserve

Industry data on the loading of transmission and distribution facilities is not available. However, it is reasonable to assume that the margin of reserve in such facilities is quite limited, and certainly not nearly as large as it was prior to the war.

On the other hand, the prospects for additional economies through improved load factor appear to be very good. Between 1920 and the beginning of World War II, our industry's load factor changed very little. During the war it increased from about 52 per cent to about 64 per cent, principally because of the increase in three-shift operation by industrial customers, and the fact that daylight savings was effective the year around. After the war our load factor fell off to about 60 per cent, but by 1953 it was back up to 62 per cent. Since the industry's margin of reserve was about 17 per cent in 1953, this means we used our capacity only about half of the time in that year. So, even on the basis of a liberal allowance for forced and scheduled outages, there appears to be considerable room for improvement in load factor.

But the fact remains that the rate of improvement in fuel requirements per unit of energy is leveling off, and, as matters now stand, we have little, if any, prospect of being able to make material reductions in reserve capacity. If this situation continues it will mean that our ability to combat increases in the general price level will not be nearly as great as it was prior to World War II.

Steps to Be Taken

It seems unwise, therefore, to assume that the rise in cost of making electricity which began in the middle '40's, and the current decline in our rate of return, is just a temporary phase. Instead we should consider what measures, in addition to what is already being done, might be taken to guard against the possibility that this trend may be of a more significant nature.

This might be the proper time to make a rather comprehensive review of our current activities in the field of research. In such a study consideration ought to be given to increasing the scope as well as the intensity of our research. Possibly the most effective and most economical way to do this would be to supplement the activities of the individual companies with an industry sponsored and financed research program. The supplementary nature of the program would tend to minimize conflict as to objectives. Industry financing would produce a substantial multiplication of the dollars invested, and would tend to keep down the cost to individual companies.

Sales Promotion Programs

It might also be advisable to reexamine our sales promotion programs in the light of our rising costs and declining rate of return. Keener competition from other industries in such fields as cooking, water heating, and clothes drying most likely will require some increase in sales promotion expense. Therefore, we should explore every possible means of improving selling efficiency so as to produce the maximum revenue per dollar of sales expense.

But it is much more important to develop new ways and means of increasing our load factor. With the

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A Utility Executive Looks at Lighting

By Merrill E. Skinner

Vice President and Director of Sales, Union Electric Company of Missouri

An Address before the 21st Annual EEI Sales Conference, Chicago, Ill., March 31, 1955

LAST year as we celebrated Light's Diamond Jubilee, the entire country was awakened to the great progress that has been made in the electric industry since the birth of the incandescent lamp. It seems appropriate as we start the last quarter century toward the Centennial of Light that we should take time to re-assess the value of this basic load of the electric industry. We know of the tremendous possibilities for growth. I would like to give you eight good reasons why utility sales managers should be shooting for growth targets.

1. Ceiling Unlimited

We have a long way to go to match sunlight. Every target for lighting levels is one that *we* get. Our customers will accept higher and higher levels of lighting, so long as we engineer the installation for comfort, as fast as we have the courage to sell them.

In the case of some other loads, when everybody's got one, we're through. Very few people can use a second dishwasher. In the case of lighting, we are never through. We can light, and relight, ad infinitum.

2. Common Denominator of Our Business

Lighting is the great common denominator of our business. It penetrates and serves in every market—farm, residential, commercial, industrial, and out-doors. It is important to every company—large or small, straight electric or combination, urban or rural, loaded with industry or looking for it.

Every lighting advertisement and promotion has multiple effectiveness. If you sell a man office lighting, he wants it at home and vice versa. In San Francisco an increase in street lighting on Market Street brought about a 20 per cent increase in show window lighting.

Lamp company advertising in the national media helps all of us. Our advertising helps our neighbors; theirs helps us.

3. Our Largest Single Source of Revenue

Lighting is estimated to use 27 per cent of all kilowatthours sold. We have a gorgeous new supermarket in St. Louis. It has everything. An electric eye opens the door for you. It is air conditioned. It has a very elaborate refrigerated and frozen food display. It provides music while you shop and has an all-electric soda fountain and lunch bar. Yet, lighting accounts for 50 per cent of the use. When you increase your lighting load, you are working on the largest single element of your load. A small percentage increase represents a lot of kilowatts.

4. No Competition

Gas can't touch this part of your business. And there is no competitor in sight. Technical improvements in the lighting field go forward unceasingly and improved efficiency, instead of hurting our business, opens new vistas of opportunity. Gen. Sarnoff wants his people to invent a light amplifier to help him celebrate an anniversary. They probably will do it, and I'll bet that electricity will be required to activate it.

5. Desirable Load Characteristics

Lighting is a very desirable load from the point of view of power factor. By the end of 1955 on the Union Electric System we will have 400,000 kilovars of capacitors on our distribution lines. This represents an investment of approximately $4,000,000 required to carry low power factor loads.

But for the large block of lighting load with its near unity power factor, this investment would be substantially higher than this already large figure.

Lighting load adds stability to the system load curve. In the stores, offices, and factories the lights go on at the beginning of the day and stay on all day, or, depending on hours of operation, all night. This is not a fluctuating load with high peak demands, but a steady load, the kind we relish.

Best estimates place the *annual* load factor of the various classes of lighting service at from 15 to 20 per cent for residential, from 30 to 40 per cent for commercial and industrial, and about 45 per cent for street lighting. Few individual appliances have annual load factors as high as these values.

Another important fact about the lighting load is that it is essentially the only load which we have to fill the night-time valley on our system load curves when only our most efficient generation is on the line. Street lighting is especially valuable in this respect.

6. Its Peak Responsibility is Dropping

In the early days, lighting had to carry full responsibility for the system peak load because there was no other load. Today things are quite different.

The percentage of the lighting load which is coincident with the system peak depends on the nature of the individual utility's load curve which, in turn, depends on such factors as the geographic location of the utility and the nature of the dominate load served.

For example, on our Union Electric System, our system peak until recent years occurred in the winter generally between the hours of 4:00 to 6:00 p.m. A large percentage of lighting service of all classes was coincident with this peak. In recent years we have had a rapid growth of residential and other types of air conditioning load that has shifted our system peak from a winter evening to a summer-late morning or early afternoon-peak. On systems where this summer daytime peak is occurring, the lighting load with its evening peak in the wintertime is an economically advantageous load.

Even before air conditioning catches up with you, you may find lighting is off-peak on your system due to temperature limitations on your system capacity. As ambient

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Helping Small Towns to Help Themselves

By Harry R. Scott
Regional Manager, Union Electric Company of Missouri

ONE Saturday morning last spring, a band of Desloge, Missouri, high-school students descended on the town's business district, dressed in their work clothes and carrying brooms, tape measures, chalk, twine, paint brushes, and buckets of white paint. Before the day was over, the main street of Desloge emerged with neatly painted parking stalls and cross-walks.

Desloge, which is subject to the same sort of traffic and parking problems that plague towns and cities across the country, had long needed painted parking lines. But it was a job that the older citizens never quite got around to doing. There was always something else that had a more urgent claim on the town's funds.

The boys and girls of the local high school, working with equipment borrowed from home and paint donated by the town's merchants, showed that the job could be done at no great cost to anyone if enough people were interested. Beyond getting the job done, which was the purpose of the project, the high-school students wanted to demonstrate the value of community action and show the adults of the town that the students, who had studied the town's needs and recommended a number of improvements, were ready to do their part to make Desloge a better community.

Results of Program

That is the sort of thing that is taking place in small towns throughout Union Electric's rural service area as a result of a program launched by the company in the summer of 1952. The program was designed simply to help small towns to help themselves.

In the short period it has been in effect, participating towns have, among other things:

Installed new sidewalks and curbs.
Paved streets.
Installed new street markers.
Developed and improved parks.
Installed lighted softball fields.
Started programs of supervised recreation for children.
Established recreation centers for teen-agers.
Organized volunteer fire departments.
Built fire stations.
Established community centers.
Remodeled city halls.
Built tennis courts.
Set up weed-control programs.
Improved water and sewer systems.
Campaigned for bond issues for school improvements.
Carried out uniform house numbering projects.
Modernized business houses.
Installed safety lights on highways adjacent to schools.
Landscaped school grounds.
Cleaned up trash-littered vacant lots and other eyesores.

And at least as important as the physical improvements accomplished, is the effect the plan has had in bringing the people of these towns together to work for community betterment.

WHEN a soundly conceived community development plan, such as Union Electric's Planned Progress Program, is taken up by the energetic citizens of a small town, the results can be dramatic. St. Paul, Iowa, with only 113 residents, now has the $80,000 community center pictured below to show for the efforts of its people —as well as a $1,000 first-place award in the Planned Progress competition, which Union Electric President J. W. McAfee presented to Father Francis Schaefers, pastor of the parish having St. Paul as its center.

The building includes among its facilities a combination gymnasium-auditorium and a well-equipped stage. Cost of construction was kept at a relatively low figure, because over 90 per cent of the community actively participated in working on the project. More than 500 man hours of labor were contributed by 47 men, and participation extended right through to the grade-school children.

Some 500 persons from St. Paul and the surrounding farm area attended the "victory dinner" and award presentation in the new building on April 13.

Community Center at St. Paul, Iowa

The plan, which has fired the imagination of people in small towns in Missouri, Illinois, and Iowa, is called the Planned Progress Program. It was developed to meet a need that had become apparent both to the people of the towns and to Union Electric—a need for a program that would stimulate interest in community improvements and provide a means of translating that interest into productive action.

Better Product Needed

For years, Union Electric, like other utilities serving rural areas, had assisted small towns in preparing brochures, answering requests for information, and other efforts to attract new industry. While successful in some instances, it had become apparent that advertising and information alone would not do the job. Before advertising could be effective, a better product was needed. In short, we were putting the cart before the horse.

The plan that we worked out, after talking the problem over with community leaders in a number of towns, was not entirely new. In fact, we borrowed heavily from the program that Georgia Power Co. had been operating successfully for ten years. But the plan has at least one novel feature that sets it apart from similar programs and which has contributed markedly to its over-all success. The young people are included.

Youth Interest Developed

A common problem among rural communities is that of keeping their young people after they have finished school. This is partially a matter of job opportunity, but it is also, in many cases, a matter of making the town more attractive and of instilling among young people an interest in their town—a sense of community. The problems are, of course, interrelated. If the towns could develop in their young people an interest in their town and get them, along with the adults, to work for community improvements, we felt the towns' chances of attracting more business and of being able to offer more job opportunities would increase.

The Planned Progress Program, which is a continuing one, completes a two-step cycle every year. The first step is project analysis and planning. It is called the school phase and is carried out by the members of a high school class. The second step is one of action by a team made up of both adults and young people.

During the school phase of the program, which starts shortly after the beginning of the fall semester, each school organizes a Planned Progress team, with a faculty sponsor, a team captain, and other officers. The organizational procedure and other steps to follow are explained in a manual for students that is furnished by Union Electric.

The student team surveys the needs of its community and selects three civic improvement projects for concentrated study. Each of the projects must be in a different field. Among the suggested fields are recreation, education, municipal development, farm-town relations, health sanitation, tourist trade, beautification, religious welfare, transportation, and business and industry.

Detailed Student Planning

After selecting three projects, the students work up detailed plans for their accomplishment in one year and identify the parts of the plans that they and other young people in the community will be able to assist in carrying out.

The final step is the preparation of a report for submission to Union Electric in mid-December.

Judging is done by a board of civic-minded men from outside the participating towns. They judge the reports on the following points: reasons for selecting the projects, 10 per cent; completeness and practicability of the plans submitted for accomplishing the projects, 60 per cent; youth participation (evidence that young people have been realistically included in the plans for accomplishment), 25 per cent; and presentation, 5 per cent.

Schools submitting the best reports are given awards of school equipment for which regular funds are not normally available. The top award is $750 in equipment.

The reports submitted by the students are then turned over for implementation to an adult council which has been formed in each town.

Towns throughout the Company's rural service area are provided with a booklet, "Information for Adult Groups . . . Planned Progress Program," which explains the program and contains advice on setting up an adult council with representatives from all organized groups in the community. The adult groups are urged to make a special effort to include students on the council, appoint them to committees, and assign them a share of the responsibility for carrying out various projects.

Council Reviews Plans

Once organized, the members of the adult council weigh the student report and recommendations against their own knowledge of the town's situation and problems. If they disagree with the students' plans, they may alter them or make new ones. To assist the adult groups in this phase of the work, Union Electric provides them with a 13-page outline for a community survey that covers such points as highways and roads, railroads and other transportation facilities, educational institutions, municipal utilities, health facilities, tourist trade, housing, clubs and organizations, religious institutions, industry, agricultural trade, professional services, stores and shops, and service establishments.

The adult phase of the program runs for 11 months—from January 1 to December 1, which is the deadline for submission of adult reports. This report contains a description of the town, a chart showing the organization of the adult council, an index of projects, a detailed summary of the action taken on each project, an estimate of the extent to which the town approached over-all community participation, and a report on the part played by youth in carrying out the projects.

Includes Other Activities

In addition to projects recommended by the students and others sponsored directly by the adult council, the report includes all of the community-improvement activities undertaken in the town during the year, since the council is representative of all groups.

The reports are divided, for the purpose of judging, into two groups —one for towns of less than 1000 population and another for towns with between 1000 and 7500 population. Like the student reports, the

adult council entries are judged by people from outside the participating towns. The 1954 reports were judged by the Department of Sociology and Anthropology of Washington University and in 1953 by the Department of Sociology of Parsons College in Iowa.

Adult Report Judging

Adult reports are judged on the following points: work accomplished and degree of community participation, 70 per cent; youth participation, 20 per cent; long-term planning (evidence that sound ideas have been worked out for solution of some of the town's tougher problems), 5 per cent; and presentation, 5 per cent.

First-, second-, and third-place awards of $1,000, $750, and $500, respectively, are awarded to competing towns in each population group. A stipulation is made that the money must be used to finance a community development project.

Planned Progress is designed throughout to help communities to help themselves. The company's principal role is to stimulate action. Union Electric contributes the plan itself, cash awards, printed material, assistance in gaining publicity, the advice and counsel of its district managers, and road signs for the major entrances of each town, identifying the town as a Planned Progress town.

The company holds a dinner meeting every year in each program area to announce the beginning of the school phase. Adult council chairmen, high school superintendents, newspaper and radio men, heads of city government, and their wives are invited to attend.

All-Day Workshop

Last summer, Union Electric held an all-day workshop for the adult council chairmen and vice-chairmen of Planned Progress towns. Experts were brought in to give talks on such subjects as sanitary sewer development, financing, recreation, beautification, construction, community planning, religious development, and juvenile delinquency. Participants were given an opportunity to ask questions of the speakers and to compare notes with each other.

In Union Electric's regional area, which excludes the city and county of St. Louis, there are 35 high schools and 60 towns eligible to compete in the Planned Progress Program. The number of schools that have submitted reports each year since the program started has ranged from 25 to 28 and the number of towns, from 23 to 28.

In the territory served by the Missouri Edison Co., a Union Electric affiliate which adopted the program last fall, all 14 of the area's high schools have participated and indications are that a large percentage of the 69 eligible towns will submit entries.

Small Town Participation

As could be expected, participation by individual students and adults was highest in the small towns. Some towns estimate that from 50 to 60 per cent of all residents have participated in the program. In the larger towns, which have a number of service organizations with projects of their own, the percentage of participation runs lower—probably about 20 per cent of the population in the most active towns.

As the program runs on from year to year, the chances are great that individual towns — especially those that have tackled projects requiring a high degree of community effort—will drop out for a year or two to rest on their oars. However, there is no indication, after three years' experience, that the participants will run out of ideas or enthusiasm. What will probably happen in most towns is that the concentration will shift from improvements in streets, parks, playgrounds, and the like, to cultural endeavors, after most of the obviously needed physical improvements have been made. There are already indications in some of the student reports that such a shift in emphasis is approaching.

Program May Change

It is also probable that the program itself will change through the years—as it already has in certain details—as the needs of the participating towns change. However, the basic idea seems to meet a need that will always be present in small towns.

In addition to sponsoring Planned Progress, Union Electric, through its Sales Department, takes an active part in the industrial development activities of the Chamber of Commerce of Metropolitan St. Louis and assists outlying communities in efforts to attract new industry.

Company Benefits

Union Electric's sponsoring of the Planned Progress Program is a matter of both civic responsibility and self-interest. The company is, in effect, a corporate citizen of each of the towns it serves. It has an important stake in the future of these towns. If they grow and prosper, Union Electric will benefit, along with all of the other citizens of the town. The attitude is expressed as follows in the company's public statement of policy:

"As a private enterprise entrusted with an essential public service, we recognize our civic responsibility in the communities we serve. We shall strive to advance the growth and welfare of these communities and shall participate in civic activities which fulfill that goal . . . for we believe this is both good citizenship and good business."

It is too early to tell whether the planned Progress Program is going to make any real contribution to the economic growth of the participating towns, but it has already generated a high degree of community spirit and enthusiasm and resulted in a large number of civic improvements. On the basis of these accomplishments alone, the time and money that Union Electric has put into the program have been well spent. In addition, the company has gained other benefits.

Customer Contact

The company's district managers and other employees in the regional department estimate that, as a result of the program, they have met and talked with 5000 customers they would not have seen otherwise. These included such "opinion leaders" as school officials, school board members, editors, municipal officials, civic club members, religious leaders, and business leaders.

From the beginning, the program has had the editorial support of the area's newspapers, many of which have commended Union Electric for its sponsorship of the program.

Selection of Employees for Promotion

By Donald S. Lord
Managerial Assistant, Public Service Electric and Gas Co.

A Presentation Sponsored by the EEI-AGA Accounting Employee Relations Committee

A COMPANY is fortunate if it has *good* supervisors who can effectively link managerial direction with employee performance. But, in many cases, it is more good fortune than efficient management that has brought these supervisors to their present positions.

Let us consider the case of Jim Booker, accounting supervisor, in a utility company. Jim was hired 29 years ago, just out of high school, as a messenger. There were only two messengers in the office at that time, so Jim had to wait only a short while until he was promoted to assistant bookkeeper. This gave him a little better income, so he and Jane were married. The additional responsibilities of marriage, plus the prospects of fatherhood a year later, prompted Jim to think seriously about doing something to better himself. Of course, the job at the company provided great security, but there was need for more money. So Jim applied himself to his work, offered to help other employees, and volunteered to work after hours even though overtime payment was then unknown. He also enrolled in night accounting classes at a nearby university to prepare for higher-level work.

He had been told not to expect that advancement in the utility business would be rapid. There were five assistant bookkeepers with experience more extensive than his. Nevertheless, the competition for better jobs didn't look too tough. He intended to apply himself to earn promotion which surely must come to those who prove themselves most capable.

After the three older assistant bookkeepers had received promotions, Jim became a little anxious because two of them were poorly qualified, in his opinion, for bookkeeper's jobs—both as to ability and desire to do good work. Nevertheless, Jim languished as an assistant bookkeeper for five more years, until all those ahead of him had moved up.

After 12 years, Jim got his break. It was a bit disappointing to him to realize that his promotion to bookkeeper came mostly because he had waited in line for 12 years and that it was not a reward for his sincere effort to be the best assistant bookkeeper in the office. He now found himself in a group of 15 bookkeepers, all of whom had greater seniority.

During these years, Jim's fine attitude and determined approach did not go unnoticed. Although he wasn't promoted, he did receive better salary increases than those who seemed satisfied to do only enough work to get by.

With the formation of a union there came a standard scale of salary rates. The bookkeeper's job paid an established rate for "satisfactory performance"—nothing more or less. Now in the place of merit increases as a reward for outstanding work and an incentive for continued effort, there were general salary increases regardless of individual performance. These didn't help too much with Jane's budgeting because they were partially dissipated by the higher prices she had to pay. The only possibility for further increases was through promotion. This was a slow process, since it seemed that advancement was given invariably to the applicant who had the greatest seniority, regardless of his qualifications.

Pattern of Frustration

The story of Jim's frustration and discouragement follows a familiar pattern of waiting for those ahead to move on, and of taking orders from men whose principal claim to authority was length of service. Eventually, Jim Booker learned that patient waiting was just as rewarding as his earlier efforts had been discouraging.

After 29 years of service, Jim is now accounting supervisor, primarily because he had seniority when his predecessor retired. Jim is a good supervisor, but he could have been a much better supervisor had there been a chance for him to be recognized 20 years ago when he had the ability and the desire to give top performance and to become more valuable to his company.

It just cannot be that methodical promotion by seniority will move employees with varying degress of ability into anything even resembling their proper places in the organization. The tragedy of the seniority system is that it frequently places a supervisor in the undesirable position of leading and directing employees better qualified than he to do the leading and directing.

Contract Clauses

Some utility companies have negotiated contract clauses specifying that promotions shall be made on the basis of the best qualifications, seniority being considered only when there is no discernible difference in the qualifications of the leading candidates.

Such provisions are of value only if all concerned believe in them and are determined to make them work. Where these provisions operate effectively, it is because there is, on the part of both management and the union, a mutual understanding and appreciation of the benefits to employees and company alike. Employees have a good reason to make sincere efforts to do their best with the knowledge that this may lead to promotion.

Not everyone can be promoted, of course, but conscientious adherence to the intent of the mutually agreed basis for promotion assures each employee that he will receive the best quality supervision available. The responsibility for leadership is entrusted to those who have demonstrated their ability to measure up to it.

It is perhaps surprising that some utilities—and those with no union

organization are represented in this category—take a very complacent attitude about not recognizing better ability when making promotions. They appear content to make selections by seniority alone. Management representatives of some other utility concerns, while aware of the advantages of recognizing qualifications, have expressed the view that there is little or nothing they can do about it.

Now it is quite obvious that Jim Booker was not looking for something for nothing in the early years of his career. On the contrary, he demonstrated a willingness and desire to put forth extra effort in the hope he would be promoted.

How about the Jim Bookers in your organization? Many in the early years of their employment have visions of moving to positions of responsibility. They would be eager to prepare themselves for promotion if there existed a genuine recognition of outstanding effort and ability. Without such recognition, there is little incentive to make the necessary preparation.

The first step in moving toward this objective is for management to become completely aware of the tremendous reservoir of abilities and operating efficiency that can be opened by establishing a sound basis for selecting employees for promotion. It must be remembered that the motivation to put forth extra effort is produced not by the positive guarantee of promotion, but rather by the knowledge that in this competition the best man will win because he is best, instead of merely because he has waited the longest.

Once convinced of the value of promotion based on ability, management should determine to move toward this goal purposefully and methodically. The following areas should be examined, improved, or expanded where necessary: (1) Employee records, (2) Periodic rating of employees, (3) Methods of evaluating candidates for promotion (including use of general aptitude and occupational tests), and (4) Guidance and assistance program.

Employee Records

The personnel file for each employee should contain all his historical data such as age, length of service, prior experience, absence record, educational background, leadership activities, and detail as to positions held in the company.

Periodic Rating of Employees

At approximately yearly intervals, each supervisor should prepare a simple rating of each employee in his department to record his evaluation of that employee's attitude, cooperativeness, ability, and areas of both strength and weakness. This will serve as a valuable source of reference when an employee is being considered for promotion and will also provide practice in rating for the supervisor.

A frank and private discussion of the supervisor's rating with each employee will remind that employee of management's interest in him and may aid him in improving his attitude toward his work. Certainly the supervisor will get to know each employee better, and he will thus be in a better position to judge him for promotion.

Evaluation Methods

Apart from periodic rating, a rating plan for promotion should be developed. Through this plan, several supervisory employees would evaluate each candidate for promotion. This plan should be designed to measure the applicant's ability to perform his present job, his indicated aptitude for the type of position to be filled, and, where applicable, his capacity for leadership. An organized approach to evaluation such as this is essential to obtain considered judgment rather than a snap opinion based on a few recent incidents. Employee records should be made available to raters as an aid to them in evaluating candidates for promotion.

Many companies have found great value in the use of tests as a means of judging intelligence and ability, and as a supplement to ratings and bare judgment. Many such tests are available for use, while others may be developed and validated within your company.

Following rating of candidates for promotion by several management and supervisory men, it is advisable to summarize the ratings and examine them in a discussion with the raters. Reference to periodic ratings is often useful in this discussion. Marked variation in the judgment of raters concerning an employee should be investigated to determine whether the difference stems from information that was not available to all raters or from basic differences in their approach to rating itself. Such discussions will do much to improve the calibre of rating.

Guidance and Assistance Program

Much has been done already and still more remains to be done in counseling employees concerning areas where they need improvement and helping them to reach their objectives. In the interview following the periodic rating, there is an excellent opportunity to do this. In some companies, study courses are available, while in others close liaison is maintained with nearby colleges and business schools. Many companies help employees to pay for courses taken in outside educational institutions.

The above-mentioned procedures are essential in establishing a well planned method of selecting employees for promotion on the basis of ability. At every opportunity, employees should be told of the advantages inherent in this method.

Selection in this manner should provide impetus for all those who learn of it to sell others on its benefits. There could be no better salesman for selection by qualifications than the young Jim Bookers themselves.

A change of contract provisions to recognize ability in selecting for promotion, or the following of this procedure where it is now provided for but not exercised, is fundamentally a matter of employee education. Employees must be given an understanding of the relative merits of ability and seniority in promotions to positions of greater authority and responsibility. If your union clings to the principle of selection by seniority, then why do they not also select their officers on this basis? The large number of union officers selected without regard to seniority in their unions belies the principle that seniority is a dependable gauge of ability.

Frank discussion of the basis for

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New Sales Plan for Industry-Wide Groups Makes Concerted Action Against Inadequate Wiring

A NEW cooperative, industry-wide move by united electrical organizations has been made to provide weapons against the market-depressing factor of residential under-wiring.

This concerted action, prompted by the Electrical Industry Coordinating Group, which is headed by Reed Hartman, Vice President, The Cincinnati Gas and Electric Co., was revealed at the 21st Annual Sales Conference of the Edison Electric Institute, March 30 in Chicago, by J. H. Jewell, Vice President, Westinghouse Electric Corp.

Joint Action Today

He released there a new sales presentation for electrical industry use, "Joint Action Today . . . for more business tomorrow," and indicated it would be made available through the National Adequate Wiring Bureau to utilities, electrical leagues, and other groups for the education of distributors, dealers, and contractors. The feeling of the industry has been that many of its members are not yet aware of the relationship between the home wiring problem and their own economic welfare.

Succinctly styled and timed in short segments, the tailor-made material is in two sets—one consisting of four, and the other of two speeches. These and a 92-frame film used with a special projector, lens, and wide screen, marshall all the known facts on the wiring market, and delineate the effect of substandard home wiring on all branches of the industry.

National Circulation Expected

By placing these visual aids and prepared talks within easy reach of utilities and other groups which have not yet developed wiring improvement sales programs or which are seeking a new tone to arouse industry interest, the coordinating group expects to get country-wide circulation for a presentation which will carry the added weight of the industry blessing.

Projection equipment for wide screen, quality pictures, and three sizes of screens up to 21-ft wide will be available on a $50 rental basis, plus transportation charges, from the National Adequate Wiring Bureau, 155 E. 44th St., New York, 17, N. Y.

Endorsing Organizations

Both speeches and slide film material have the endorsement of the Edison Electric Institute, National Electrical Manufacturers Association, National Electrical Contractors Association, National Association of Electrical Distributors, International Association of Electrical Leagues, the National Appliance and Radio-TV Dealers' Association, and the Air-Conditioning-Refrigeration Institute.

As offered for speakers' use in the electrical field, one set of materials contains illustrated 5- to 10-minute talks for three speakers, and covers, respectively, the future appliance market, how the sale of appliances affects the apparatus market, how the appliance and apparatus markets can be adversely affected by inadequate wiring, and an outline for a fourth talk, without illustration, on the local market and the local adequate wiring program.

Speeches Included

A second set of materials presents two speeches on these subjects: a 22 minute talk on national market, illustrated by slide film; suggested outline of talk on local market and local adequate wiring program.

In the first showing of the slide film at the EEI Conference, Mr. Jewell said the concept of joint action on a theme suitable to all segments of the industry had first come into being in June, 1953. Adequate wiring, he stated, furnished the essentials of the right kind of consumer-industry program. The need was there, and the idea promotable, but it would require realistic sales effort. The "better mousetrap" idea applied to promotion of adequate wiring should be regarded as a fable, he said.

Film "Story Line"

The slide film "story line" traces the development of electric appliance sales to date in the amount of 353,000,000, the astounding growth of new appliances each year, and the ten-year market furnished by a population increase in that time of 25,000,000 more families. Among other facts and estimates developed in the film presentation are these: 428,000,000 appliances will be sold within the next five years; manufacture of these appliances is made possible by an increase of 57 per cent in the 1954 factory square foot area of the industry; utility capacity to furnish the power for those appliances is now 103,000,000 kw and will be augmented by another 20,000,000 by 1960.

Statistical Analogies

The film dramatizes its statistics with these analogies: if lined "into one, long chromium column," 4,000,000 new toasters added to the existing electrical load within the next five years would reach from Atlantic City to Fort Wayne, Ind.; the bread slices they would toast would reach from Atlantic City to Pittsburgh; the power they would need would require the equivalent of 2400 25-KVA distribution transformers.

Translated into dollars of business, the slide story on potential market points to $8.5 billion to be drawn from the home market for the electrical contractor, manufacturer, and distributor of wiring supplies. But, the sales story continued, this market is reachable only on the condition that enough circuit capacity is put into old and new homes to power the appliances which the industry can provide.

Accounting Conference

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accelerated depreciation requirements, cathodic main protection, transformer capitalization, replacement cost of property in rate cases, cycle inventories, installation of leak clamps, etc.

On Wednesday morning the discussion was directed toward topics of industry-wide importance, including: accounting for contributions in aid of construction, spare parts, and gas metering installations. The session concluded with the showing of color films of natural gas transmission pipe line construction.

Participating as speakers or panel members at these sessions were H. L. French, Baltimore Gas and Electric Co.; G. A. Gracy, Jr., Long Island Lighting Co.; P. E. McClellan, Citizens Gas & Coke Utility; A. C. Herron, Florida Power Corp.; H. G. Eilers, The Cincinnati Gas & Electric Co.; G. F. Dixon, Milwaukee Gas Co.; J. W. Dungan, The Toledo Edison Co.; C. W. Kelsey, New York State Electric and Gas Corp.; C. J. Lytle, Hope Natural Gas Co.; C. A. McKenna, Wisconsin Public Service Corp.; R. H. Miller, Northern Natural Gas Co.; G. M. Hess, Pennsylvania Electric Co.; L. W. Burns, Northern States Power Co.; W. W. Henry, The U.G.I. Co., and R. H. Miller, Northern Natural Gas Co.

Taxation Accounting Committees

At the first of two sessions of the Taxation Accounting Committees, held on Tuesday afternoon, W. S. Alt, Union Electric Co. of Missouri, reported on "Recent Court Decisions"; H. M. Hobson, Public Service Electric and Gas Co., talked on "Implications of Shift from Engineering to Field Personnel in Examination of Depreciation and Related Matters"; A. G. Maihofer, The Detroit Edison Co., spoke on "Individual Account vs. Composite Depreciation"; and G. H. Wier, Commonwealth Edison Co., addressed the group on "Tax Free Distribution of Subsidiary Company's Stock."

Four more speeches were heard at the Wednesday morning session of these committees. Speakers and topics were R. J. Van Ess, Consumers Power Co., "Distributions Out of Other Than Earnings and Profits"; J. F. Brennan, Philadelphia Electric Co., "Deductions of Reserves for Estimated Expenses"; C. H. Mann, Columbia Gas System Service Corp., "Allocation of Consolidated Income Taxes"; and W. S. Alt, Union Electric Co. of Missouri, and J. R. Weger, Baltimore Gas and Electric Co., "Proposed and Introduced Federal Tax Legislation and Regulation."

Other conference activities included a Conference Dinner on Tuesday night, an exhibit entitled "Omnibus . . . 295" sponsored by the Customer Relations Committees, and an office machine exhibit.

EEI Safety Merit Awards Earned by 14 Companies

DURING the period between March 15 and May 1, 1955, a total of 14 EEI Safety Merit Awards were authorized for presentation. Three of the awards recognize the accumulation of 2,000,000 man-hours worked without a disabling accident, while each of the other 11 recognize 1,000,000 or more man-hours. Award certificates were presented to the following companies:

The Cleveland Electric Illuminating Co.	
Entire Company	1,000,000
Avon Plant	1,000,000
Consolidated Edison Co. of New York, Inc.	
Commercial Buildings—Operation Bureau	2,000,000
Distribution Operation—Service Bureau	1,000,000
Consolidated Gas Electric Light and Power Co. of Baltimore	
Electric Distribution Department	1,042,076
Power Production Stations	2,128,767
Electric Operations	2,171,334
The Cincinnati Gas & Electric Co.	
Electric Production Department	1,000,000
The Detroit Edison Co.	
Suburban Operating Groups of Substation Department	1,049,151
Iowa Power and Light Co.	
Des Moines Power Station No. 2	1,000,000
Oklahoma Gas and Electric Co.	
Shawnee Division	1,000,000
Public Service Co. of Oklahoma	
Entire Company	1,678,380
Tampa Electric Co.	
Entire Company	1,220,807
Wisconsin Power and Light Co.	
Northern District	1,011,602

The Cleveland Electric Illuminating Co. award is their sixth entire company award since 1950.

Oklahoma Gas and Electric Co.'s 1,000,000 man-hour award for the Shawnee Division recognizes four years without a disabling accident.

The two 2,000,000 man-hour awards to Consolidated Gas Electric Light and Power Co. of Baltimore give that company five awards of more than 1,000,000 man-hours since 1943. Its Power Transmission Stations have a 6,000,000 man-hour certificate and its Electric Division a 3,000,000 man-hour certificate.

The award to Public Service Co. of Oklahoma Co. represents further achievement on the part of their employees who received a 2,000,000 man-hour award late last winter. Since the accident that terminated that record, they have now gone on for 1,000,000 more man-hours.

Tampa Electric Co.'s award is the third to its entire company since 1950.

The 2,000,000 man-hour award to Consolidated Edison Co. of New York, Inc., is the fourth of this size to that company since 1943, and is its third award this year.

A Catalog of EEI Publications

is available upon request to:

Edison Electric Institute

420 Lexington Ave.

New York 17, N. Y.

Future Problems

(*Continued from page* 147)

improvement in our heat rate leveling off, and with little opportunity to reduce reserve capacity, increased load factor offers one of the most effective means of reversing the downward trend in our rate of return. There appears to be substantial room for further improvement in this area, and it will pay off handsomely in increased return on our investment, provided, of course, that promotional off-peak rates are maintained at realistic levels in relation to cost.

Maybe our present position might even warrant a basic shift in emphasis in our sales promotion. Instead of giving top priority to increased volume, it may be advisable to give equal attention to promoting sales which will have the most beneficial effect on load factor.

With relatively minor exceptions, applications for general increases in electric utility rates in recent years have been acted upon favorably by the regulatory commissions. The higher rates have also been well received by our customers. But the regulatory climate in some states has shown signs of deterioration lately. And now that the inflationary trend has run its course, customer reaction to general rate increases may not be quite as favorable as it has been. In any event, further general rate increases should be regarded as a last resort measure, at best.

On the other hand, some revisions could be made in the form of our rate structures to assure better results from increased sales. End rates should be raised sufficiently above cost to produce realistic results from greater customer use. And in spite of the importance of improving load factor, promotional off-peak rates should be reviewed in the light of current costs and new rates of this type should be approached on the same basis. This is likely to pose some difficult problems.

No doubt there are many other things which could be done to improve the current trend of our cost of doing business and of our rate of return. And this might be a good time to give some serious thought to them. For, although we are a long, long way from the point of diminishing returns, as of this moment, at least, we are headed in that general direction. An effective sales promotion program, properly adapted to meet current conditions, probably can do more than anything else to put us back on the right track with a minimum of delay.

Employee Promotion

(*Continued from page* 153)

your selection will go far toward convincing the union representatives of the wisdom of your method. It should be remembered that where there is no recognizable difference in the qualifications of two or more applicants for a position, then full recognition must and should be given to the senior employee. However, a sound method for evaluation is essential to the determination that this closeness in qualifications truly exists.

Free exchange of ideas concerning methods of evaluation will lead the company and the union to the development and use of uniform tests and rating plans. This will improve the quality of judgment on both sides and will simplify the resolving of differences.

The pity of it is that Jim Booker didn't work under such a system as this. His early enthusiasm would have been sustained with the knowledge that outstanding ability would be recognized by promotion. He and his fellow-workers would have been happier and more productive employees under the leadership of the most capable supervisors available.

Keeping costs down is a daily responsibility of every executive in our closely regulated utility business. Costs are directly related to productivity; and productivity is improved when each job is filled by the best candidate available. Individual evaluation by an organized employee rating plan is strongly recommended as a valuable means to that end. While some companies may have labor contracts which preclude full application of the idea to rank-and-file workers, the selection and promotion of supervisory personnel by ratings as well as tests is highly important to the future welfare of this rapidly growing business of ours.

Lighting

(*Continued from page* 148)

temperatures rise, the safe loading on cables, transformers, and other transmission facilities must be limited. As condensing water temperatures rise, our generating stations lose capacity. So, if your summer peak is within 20 or 25 per cent of the following winter's peak, you may find that it is the summer load which is establishing the need for capacity.

7. Your Refuge From Air Conditioning Problems

Companies in our St. Louis latitude and to the south of us already have summer peaks, and don't get smug about it if you are further north for in my opinion nothing can stop Mr. and Mrs. America from enjoying summer comfort. To complement air conditioning, about all you have to work with are lighting and heating. Heating with electricity runs into some pretty rugged competition from other fuels and I'm not so sure but that a dollar spent on lighting promotion won't do more good in many such situations than one spent on heating. We spend them both.

8. Generates Good Public Relations

Good lighting contributes significantly to your public relations.

The home owner whose home is beautifully and adequately lighted, the retailer who is aware of the benefits he has derived in terms of increased sales due to good lighting, and the industrialist who knows of the added profits he has earned through increased efficiency due to well engineered lighting in his factory and office, are all willing subjects for being sold more electrical living. They are truly satisfied customers—the key to good public relations.

"So", as George Gobel says, "there you are!" Eight good reasons you should give serious attention to your lighting business.

It is the foundation upon which our industry is built. Let's not sell it short now; let's make use of the promotional aids which you will hear about to really light up the nation in the years ahead.

Insurance Committee Meeting

By W. O. Randlett, *Chairman*

A MEETING of the Insurance Committee was held at the office of New Orleans Public Service Inc. in New Orleans, La., on March 16-17. The meeting was well attended with 18 members of the Committee or their alternates present. Other local company representatives made up a total attendance of 24. Attending the meeting for the first time as new members of the Committee were R. H. Brandow, Insurance Manager, Stone & Webster Service Corp.; A. L. Clough, Manager of Property and Casualty Insurance, Oklahoma Gas and Electric Co.; and Arthur C. Havlin, Assistant Treasurer, Boston Edison Co. Chairman Walter O. Randlett, Insurance Manager, Virginia Electric and Power Co., presided, assisted by D. E. Williams, Secretary, The Cleveland Electric Illuminating Co., as secretary.

The agenda for March 16 was devoted to reports from sub-committees including current information relating to Insurance Rates and Forms, Boiler and Machinery Insurance, War Risk Coverage, Flood Insurance, Excess Liability Insurance, Earnings Impairment Insurance, Fire Protection, Insurance Aspects of Atomic Power Development, and Use of Employee-Owned Vehicles Incidental to Company Operations.

Chairman Randlett reviewed the Supplement to the Schedule for Rating Electric Generating Stations adopted by the Central Traction & Lighting Bureau (the rate-making body for the fire insurance companies) in December, 1954. The revision contemplates a reduction in basic rate from .045 to .04, the net effect of which should result in an approximate 5 per cent over-all credit in the average rates applying to electric utility properties. The Supplement also provides, for the first time, credit for a properly installed approved type of manually operated fixed system of water spray or carbon-dioxide protection on outdoor transformers at attended power station or sub-station locations. The provision of this credit is the result of negotiations which have been in progress between the Insurance Committee and the Central Tracting & Lighting Bureau for over two years. Certain other minor changes are included in the Supplement, but the entire amendment to the Schedule does not become effective on individual properties until approved by the local insurance rating organizations having jurisdiction. At the meeting it was agreed than an analysis of the changes included in the Supplement should be prepared and circulated to all member companies of the Institute.

In view of renewed interest on the part of electric utilities in turbine breakdown insurance, following severe damage from failures at Toronto, Philadelphia, and Chicago, the Boiler and Machinery Sub-Committee plans another meeting in the near future with the Boiler & Machinery Division of the National Bureau of Casualty Underwriters for further discussions on machinery breakdown insurance. F. M. Terry, Manager of the Insurance Bureau, Consolidated Edison Co. of New York, is chairman of this sub-committee.

There being no recent developments to indicate a softening of the market for flood insurance and no apparent immediate need for further study of this matter, the Sub-Committee on Flood Insurance was abolished.

Reporting as Chairman of the Sub-Committee on Excess Liability Insurance, A. L. Benjamin, Director of Insurance, The Cincinnati Gas & Electric Co., advised that there appears to be some improvement in the domestic market for high limit excess liability insurance as well as indication of lower rates being made available. The sub-committee plans to obtain additional information for a further study of the matter through a questionnaire designed to reflect experience of member electric utilities.

Mr. Benjamin, also reporting as Chairman of the Sub-Committee on Earnings Impairment Insurance, stated that certain changes in formula are being planned for re-submission to the insurance interests for consideration.

Chairman R. R. MacKay, Jr., Insurance Manager for Philadelphia Electric Co., reported that the EEI Joint Sub-Committee on Fire Protection is now a reality, favorable action having been taken by representatives of the Electrical Equipment, Insurance, and Prime Movers Committee at a meeting in New York held Dec. 9, 1954. General policies regarding the scope of work to be undertaken were adopted, and Mr. MacKay was elected chairman of the joint sub-committee.

In the discussion on the Insurance Aspects of Atomic Power Development Sub-Committee, Chairman D. E. Williams expressed the opinion that the Sub-Committee should maintain its contacts with such sources as may be available to them to keep as well informed as possible on the part to be played by insurance underwriters in providing necessary coverage to the limit of their resources as well as any plans being considered by government to supplement these private resources.

J. E. Watts, Insurance Manager, Long Island Lighting Co., Chairman of the Sub-Committee on Use of Employee-Owned Vehicles Incidental to Company Operations, stated that insurance obtained through a questionnaire from member companies indicates that there is no general insurance problem in this connection.

On March 17, discussions were held on the possible need for windstorm or extended coverage insurance as protection against damage to transmission and distribution property resulting from increased incidence of hurricanes in the eastern United States. A sub-committee was appointed with Mr. Havlin as chairman for a further study of this matter.

Also on the second day, reports were received relative to the major turbine failures at Philadelphia and Chicago. Mr. MacKay described in detail the events leading to the accident at Philadelphia as well as the nature and extent of the damage. J. J. Kennedy, of Rochester Gas and Electric Corp., read a report of the Chicago failure. These reports were followed by discussion as to the necessity for re-examination of turbine breakdown coverage and maximum limits necessary.

Through the courtesy of New Orleans Public Service, Inc., and Louisiana Power & Light Co., members of the insurance committee were afforded an opportunity to visit points of interest in and around New Orleans.

The next meeting of the Insurance Committee is tentatively planned for Sept. 15, 1955, in New York.

Meter and Service Committee Meeting

By C. V. Morey, *Chairman*

NINETY members, correspondents, and guests convened at the Washington Duke Hotel in Durham, N. C., on April 25, 26 and 27, 1955, for the Joint Meeting of the EEI Meter and Service Committee and the AEIC Committee on Metering and Service Methods. The meeting was devoted to the discussions of new developments in meters and metering equipment, the presentation of subcommittee reports, and round table discussions on the engineering, economic, and operating aspects of revenue metering.

Meter Plant Tour

Various manufacturers presented descriptions of new types of meters, instrument transformers, and metering equipment. Registrants at the meeting were conducted on an inspection trip through the new Meter Plant of the Westinghouse Electric Corp. at Raleigh. This plant will eventually replace all of the meter manufacturing facilities of the Westinghouse Electric Corp. now located at Newark, N. J.

On Monday at a Joint Luncheon of the Committees, L. V. Sutton, President of the Carolina Power & Light Co., spoke on the accomplishments of the electric utilities over the last several years. He cited the need of these privately owned companies, bringing to the attention of the general public their past accomplishments and their potential ability for future service to the nation.

Accounting Viewpoint

The accounting viewpoint of meter problems was discussed by R. G. Schneider of the Virginia Electric and Power Co., a member of the Customer Activities Group of the Accounting Committee. He stressed that cooperation and understanding between the Accounting and Meter and Service Committees as well as between the Accounting, Commercial, and Meter Departments of the member companies was necessary in order to solve the mutual problems in the most economical manner. He pointed out that in the utility field high speed electronic computing machines are being applied to such processes as billing, address printing, payrolls, stores accounting and inventory control, record keeping, etc. The ability of these machines to process material has far outdistanced the progress made in getting information to the machines. The possibility of extending bi-monthly readings and billing to customers on a demand schedule was suggested, providing some method could be devised of recording and resetting the demand register monthly.

Announcement was made of the appointment of R. B. Swallow as Chairman of the AEIC Committee on Metering and Service Methods, replacing H. H. Marsh.

Testimonial books were presented to E. H. Tyson and H. M. Brown who are retiring from Committee activities after many years of service.

A discussion on the use of bushing type current transformers for revenue metering was led by J. A. Morris. It was pointed out that for some installations, use of bushing type current transformers might provide an economical and satisfactory method of metering.

Round Table Discussion

A lively round table discussion regarding metering installations utilizing 600-v current transformers was led by F. H. Rogers. Opinion was sharply divided on the economics and operation of these installations; some companies have utilized these indoor-outdoor transformers for several years with satisfactory results.

F. A. Salmon led a discussion concerning methods and accuracy requirements for field testing of thermal and mechanical demand devices.

L. M. Olmsted, Associate Editor of *Electrical World*, presented a paper entitled "Distribution Trends and Obsolescense," which was prepared utilizing the result of the survey conducted recently by *Electrical World*. This appears in the May 30 issue of the publication.

Revenue Metering

The selection of current transformers for revenue metering when installed in metal clad switchgear was discussed by F. H. Rogers. Practices among operating companies vary considerably in this type of usage.

A discussion of the merits and methods used for compensated metering for transformer losses was led by G. F. Austin.

F. A. Redding led a discussion on the use of manufacturer's serial numbers without company identification tags on meters.

C. P. Stahl, Chairman of Subcommittee on Codes and Rules, reported on the activities of his group. The methods of collecting data on results of periodic tests, and the data desired for presentation to State Commissions, was discussed at length.

Meter Department Management

As Chairman of Subcommittee on Meter Department Management, S. K. Brown reported that the revision of the EEI Publication *Recommended Safety Practices for Electrical Metermen* is well underway. Copies of the present booklet are available from the Institute. H. L. Miller distributed a report describing briefly several new meter shop layouts, and W. Jordan presented a report on new and novel operating methods and meter shop practices which promote work simplification.

Meter Sockets Study

E. A. Salmon informed the group that his Subcommittee on Service Equipment was continuing its study of new developments in meter sockets so that MSJ-7 could be revised.

E. L. Keller reported that progress was being made in Subcommittee on Meters and Metering Equipment towards revision of the existing *EEI-AEIC Specifications for Indicating Thermal Watt Demand Meters*. The preparation of a new Joint *EEI-AEIC-NEMA Standard for Watthour Meters* is proceeding rapidly and should be ready for final action by the end of the year.

New Investigation Items

The Committee dropped two items (Service Rules and Specifications for Test Switches) from its list of active subjects, the work on them having been completed, and added two new subjects for investigation. These latter have to do with (1) possible revision of ASA Standard C 57.13 as to metering current transformers, and (2) the revision and reissue of EEI Publication C-10, *Symbols for Metering Diagrams*, originally published in 1935.

Personals

On June 1, **James B. Black,** President, Pacific Gas and Electric Co., will become Chairman of the Board, a position not filled since 1908. At the same time, **Norman R. Sutherland.** Vice President and General Manager, will succeed Mr. Black as President and will continue as General Manager, and **Robert H. Gerdes,** Vice President and General Counsel, will become Executive Vice President and General Counsel.

When he assumes his new duties, in which he will have an active supervisory role in company affairs, Mr. Black will have completed 43 years of service with PG and E and a predecessor company. He has been a director for 25 years and president for 20 years. He began his career as a service inspector in San Francisco for Great Western Power Co. after graduating as a mechanical engineer from the University of California. When he left Great Western, he had risen to the position of vice president and general manager. He is a member of the EEI Advisory Committee.

Mr. Sutherland began his career with PG and E 42 years ago as a gas lamp lighter after school hours. He has since held positions which included those of commercial manager, manager of the San Francisco Division, vice president in charge of sales, vice president and assistant general manager, and vice president and general manager. He has been a director since 1952.

A graduate of the University of California and its Law School, Mr. Gerdes entered private law practice and in 1929 was first employed by PG and E as assistant to the general counsel. He returned to private practice in 1935 as a member of the law firm of Earl, Hall and Gerdes, but in 1944 rejoined the company's legal staff as assistant general counsel. He has since been general counsel, vice president and general counsel, and a director.

James H. Polhemus, President and General Manager, Portland General Electric Co., has retired but will continue as a Director of the company. **Thomas W. Delzell,** Chairman of the Board, has been named Executive Head of the company to succeed Mr. Polhemus. In addition, **Frank Warren, Jr.,** Executive Vice President, has been elevated to President.

Mr. Delzell has been Chairman of the Board since reorganization of the predecessor company, Portland Electric Power Co., in 1948. In 1938 and 1939, he was Oregon's assistant public service commissioner.

Mr. Warren joined PGE in 1937, following his graduation from Harvard Graduate School of Business, to conduct statistical studies. His former duties include those of assistant to the president, vice president, and executive vice president.

Mr. Polhemus became PGE president in 1940 during reorganization procedures. For four years previously he had been executive vice president. Earlier, for two years, he had served as general manager of the Port of Portland.

Robert R. Habberley, Vice President in Charge of Operations, Western Massachusetts Electric Co., has been elected Executive Vice President of the company and of its parent holding company, Western Massachusetts Companies.

In March, Mr. Habberley completed 25 years of service with the company which he joined as an Engineering Department employee. He held a succession of positions including those of superintendent of the Springfield Distribution Department, assistant general superintendent, director of economics, and vice president prior to being named vice president in charge of operations in 1953. Mr. Habberley, who attended Wesleyan University and Massachusetts Institute of Technology, worked for several years for Malden Electric Co. before joining Western Massachusetts Electric.

Arthur M. Sells, Vice President, Wisconsin Electric Power Co., has retired and has been succeeded by **Cornelius T. Young.**

Mr. Young joined the company as an assistant attorney in 1942. He assumed the duties of chief legislative counsel at the time of Mr. Sells' retirement in February. The newly elected vice president was a member of the State Legislature and speaker of the Assembly prior to joining Wisconsin Electric Power.

Harold E. Ayer, Assistant General Manager, Lynn (Mass.) Gas & Electric Co., has been named a Vice President of the company. In 1934, following employment with Westinghouse Electric Corp. and Hartford Faience Co., Mr. Ayer joined Lynn Gas & Electric as a power sales engineer. He was named assistant general manager in 1952. Mr. Ayer has served as vice president of the New England Association of Power Sales Engineers.

Eugene Gordon, Vice President, Potomac Edison Co., has been elected to succeed **William V. Drake,** Vice President, West Penn Power Co., who has retired after 34 years with West Penn and its affiliated companies.

Potomac Edison, West Penn Power, and Monongahela Power Companies are operating subsidiaries of The West Penn Electric Co.

After attending Johns Hopkins University, Mr. Gordon joined the West Penn Electric System at Potomac Edison in 1923 as assistant chief engineer. He has since served as chief engineer and plant superintendent at its Williamsport Station, superintendent of power, superintendent of power stations, manager of power production, and vice president. For the past ten months, he has been on loan to West Penn Power as acting manager of the Power Department.

Mr. Drake, who is internationally known in the field of power generation, joined West Penn Power in 1921 as assistant to the superintendent of Springdale Power Station. He served as chief engineer and superintendent of mechanical operation before joining Monongahela Power in 1928. There he was superintendent of power stations and manager of power generation before returning to West Penn in 1949 as manager of power production. He was elected vice president in 1953.

Several years ago, Mr. Drake was on loan to the National Resources Commission of China as head of the technical mission which investigated power plant sites and facilities in North China and Formosa.

The Detroit Edison Co. has announced the election of two new Vice Presidents, **Thomas E. Hurns** and **Eldred H. Scott**; the promotion of **Anthony G. Maihofer,** Superintendent of Taxes, to Assistant Secretary; and the promotion of **Henry J. Sullivan** to Assistant to the President.

Hurns, who will retain his present office of secretary and general accountant, first started with Detroit Edison as a clerk in 1909. He was elected assistant secretary in 1937, and assistant general accountant and assistant secretary in 1944. In 1948 he was promoted to general accountant and in 1951 he became secretary and general accountant.

Scott, a graduate of the University of Michigan, began his career with Detroit Edison as a laborer-clerk in the construction department in 1924. In 1925 he transferred to the control department, where he has held posts as company statistician and assistant controller. He was appointed controller in 1953. In addition to his new duties as vice president, he will continue as controller.

The new assistant secretary, Maihofer, is a graduate of the University of Michigan and the Detroit College of Law. He has been with Detroit Edison since 1923. He is a member of the Tax Executives Institute, Inc., the Michigan State Bar Association, and the EEI Taxation Committee.

Sullivan, the new assistant to the president, joined Detroit Edison in 1926 and served in the construction and engineering departments until 1945, when he was assigned to the staff of the chairman of the board. In 1950 he became assistant to the vice president.

He has been active in many civic affairs including the Regional War Production Board, American Ordnance Association, and the Detroit Metropolitan Area Regional Planning Commission, of which he is a past chairman.

Alexander J. Paull, Director of Personnel, has been elected Vice President—General Services for The Cleveland Electric Illuminating Co. As such, he will be responsible for the administration of a staff services group which includes the personnel and purchasing divisions, and the general office buildings and office services section.

Mr. Paull originally joined the company as a temporary summer-vacation groundman. In 1928, he became a junior clerk in the Cleveland office of the Customer Service's Department, and since then has filled the positions of supervisor of that department; claims adjustor and investigator in the Legal Department; coordinator of union relations, manager of union relations, manager of employee relations, assistant director, and director of the Personnel Department; and staff assistant to the President.

In the fall of 1953, Secretary of the Interior Douglas McKay chose Mr. Paull as one of the three national authorities assigned to appraise the organization and activities of the Southwestern Power Administration. He is a member of the Institute's Industrial Relations Committee.

At Oklahoma Gas and Electric Co., **Clarence W. Anthony,** Assistant Superintendent of Transmission and Distribution, has been named Assistant to the Vice President, and **Ross E. Harlan,** Rate Analyst, has been promoted to Supervisor of Rates and Contracts. Both men will work with Vice President **Walter B. Gesell.**

Mr. Anthony, a graduate of the University of Oklahoma, joined the company in 1935 following seven years' experience in the electric industry, including service with Commonwealth Edison Co. and General Electric Co. At OG&E he held the positions of repairman, electrician, assistant foreman, foreman, and supervisor of substations before being assigned his former duties.

Mr. Ross joined the company following military service as a major in the Air Force. From his initial position as cashier, he was promoted to rate statistician. For the past seven years, he has worked closely with the vice president in charge of operations on all matters pertaining to rates and contracts. He is a graduate of Oklahoma A. & M. and is a past president of the Oklahoma Chapter of the American Statistical Association.

Robert A. Ferreira, Office Manager, Concord Electric Co., has been appointed Manager of the company. **J. Mitchell Ahern,** formerly Vice President, General Manager, and Clerk, will continue as Vice President and Clerk.

A graduate of Harvard College who did graduate study at Boston University, Mr. Ferreira was employed by Charles H. Tenney and Co. in Boston prior to joining Concord Electric in 1935 as an accountant. He has been office manager since 1943. Mr. Ferreira also serves as treasurer of Concord Steam Corp. and is a director of the Chamber of Commerce.

Harry L. Swicegood, Chief Electrical Engineer, Brockton (Mass.) Edison Co., has been promoted to Chief Engineer. Following his graduation from Georgia Institute of Technology in 1926, Mr. Swicegood was employed by Stone & Webster, Inc., and Fall River (Mass.) Gas Co. He was employed by Abington & Rockland electric utility when it merged with Brockton Edison and he became assistant superintendent of distribution.

Several new assignments and appointments to executive and administrative positions at Iowa Power and Light Co. have been announced as follows:

F. A. Beaty, Vice President, Engineering, who is on an extended leave of absence, will assume new duties as Assistant to the President upon his return to the company. **J. F. McLaughlin,** Vice President, has been named Manager of the Engineering Department under Executive Vice President **J. T. Schilling.** A new Operations Department, also under Mr. Schilling's supervision, is to be headed by **H. R. Pearson.** Also under the executive vice president's jurisdiction is the Sales Department which will be headed by **J. A. Sayre,** who will also be responsible for purchasing. Mr. Sayre will continue to be in charge of the company's 12 districts.

John G. Miller, Superintendent of Production in Charge of Operation and Mechanical Design of Power Stations for Metropolitan Edison Co., has been appointed Assistant Chief Engineer of the company. A Purdue University graduate with a master of science degree in engineering, he joined MECO in 1947.

EDISON ELECTRIC INSTITUTE OFFICERS AND COMMITTEES

OFFICERS

HAROLD QUINTON, *President*.....Southern California Edison Co., Los Angeles, Calif.
HARLLEE BRANCH, JR., *Vice President*.....Georgia Power Co., Atlanta, Ga.
H. S. BENNION, *Vice President and Managing Director*..... 420 Lexington Avenue, New York, N. Y.
H. S. SUTTON, *Treasurer*.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
A. B. MORGAN, *Secretary and Assistant Managing Director*..420 Lexington Avenue, New York, N. Y.

BOARD OF DIRECTORS

(Terms Expiring 1955)

A. D. BARNEY.....The Hartford Electric Light Co., Hartford, Conn.
G. M. GADSBY.....Utah Power & Light Co. Salt Lake City, Utah
C. B. DELAFIELD.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
ALLEN S. KING.....Northern States Power Co., Minneapolis, Minn.
EARLE J. MACHOLD.....Niagara Mohawk Power Corp., Syracuse, N. Y.
PAUL B. MCKEE.....Pacific Power & Light Co., Portland Ore.
S. C. MCMEEKIN.....South Carolina Electric & Gas Co., Columbia, S. C.
GROVER C. NEFF.....Wisconsin Power and Light Co., Madison, Wis.
P. H. POWERS.....West Penn Power Co., Pittsburgh, Pa.
R. G. RINCLIFFE.....Philadelphia Electric Co., Philadelphia Pa.
WALTER H. SAMMIS.....Ohio Edison Co., Akron, Ohio
C. V. SORENSON.....Indiana & Michigan Electric Co., Ft. Wayne, Ind.
N. R. SUTHERLAND.....Pacific Gas and Electric Co., San Francisco, Calif.
J. B. THOMAS.....Texas Electric Service Co., Ft. Worth Tex.
ALLEN VAN WYCK.....Illinois Power Co., Decatur, Ill.

(Terms Expiring 1956)

D. E. ACKERS.....The Kansas Power and Light Co., Topeka, Kan.
W. C. BECKJORD.....The Cincinnati Gas & Electric Co., Cincinnati, Ohio
JOSEPH M. BELL, JR.....New York State Electric & Gas Corp., Binghamton N. Y.
WALKER L. CISLER.....The Detroit Edison Co., Detroit, Mich.
B. L. ENGLAND.....Atlantic City Electric Co., Atlantic City, N. J.
J. G. HOLTZCLAW.....Virginia Electric and Power Co., Richmond, Va.
R. K. LANE.....Public Service Co. of Oklahoma, Tulsa, Okla.
P. H. MCCANCE.....Duquesne Light Co., Pittsburgh, Pa.
R. E. MOODY.....Union Electric Co. of Missouri, St. Louis, Mo.
HARRY B. MUNSELL.....Kansas City Power & Light Co., Kansas City, Mo.
O. TITUS .....Pennsylvania Electric Co., Johnstown, Pa.
W. O. TURNER.....Louisiana Power & Light Co., New Orleans, La.
G. W. VAN DERZEE.....Wisconsin Electric Power Co., Milwaukee, Wis.
WILLIAM WEBSTER .....New England Electric System, Boston, Mass.
FRANK M. WILKES.....Southwestern Gas and Electric Co., Shreveport, La.

(Terms Expiring 1957)

R. P. BRIGGS.....Consumers Power Co., Jackson, Mich.
W. J. CLAPP.....Florida Power Corp., St. Petersburg, Fla.
J. E. CORETTE.....The Montana Power Co., Butte, Mont.
C. P. CRANE .....Baltimore Gas and Electric Co., Baltimore, Md.
A. S. CUMMINS.....The California Oregon Power Co., Medford, Ore.
THOMAS G. DIGNAN.....Boston Edison Co., Boston, Mass.
E. W. DOEBLER.....Long Island Lighting Co., Mineola, N. Y.
JOHN W. EVERS.....Commonwealth Edison Co., Chicago, Ill.
C. E. IDE.....The Toledo Edison Co., Toledo, Ohio
S. R. KNAPP.....The Connecticut Light & Power Co., Berlin, Conn.
C. B. MCMANUS.....The Southern Co., Inc., Atlanta, Ga.
R. S. NELSON.....Gulf States Utilities Co., Beaumont, Texas
W. A. PARISH.....Houston Lighting & Power Co., Houston, Texas
HAROLD QUINTON .....Southern California Edison Co., Los Angeles, Calif.
L. V. SUTTON.....Carolina Power & Light Co., Raleigh, N. C.

Executive Committee

A. D. Barney, Walker L. Cisler, C. B. Delafield, P. H. Powers, R. G. Rincliffe, W. H. Sammis, L. V. Sutton, G. W. Van Derzee, William Webster.

EDISON ELECTRIC INSTITUTE OFFICERS AND COMMITTEES

ADVISORY COMMITTEE (1954-1955)

D. C. BARNES.....Virginia Electric and Power Co., Charlottesville, Va.
J. B. BLACK.....Pacific Gas and Electric Co., San Francisco, Calif.
CURTIS E. CALDER.....Electric Bond and Share Co., New York, N. Y.
EDGAR H. DIXON.....Middle South Utilities, Inc., New York, N. Y.
PHILIP A. FLEGER...Duquesne Light Co., Pittsburgh, Pa.
WILLIS GALE....Commonwealth Edison Co., Chicago, Ill.
E. L. LINDSETH..The Cleveland Electric Illuminating Co., Cleveland, Ohio
H. P. LIVERSIDGE.....Philadelphia Electric Co., Philadelphia, Pa.
J. E. LOISEAU.....Public Service Co. of Colorado, Denver, Colo.
J. W. MCAFEE.....Union Electric Co. of Missouri, St. Louis, Mo.
LYLE MCDONALD...Public Service Electric and Gas Co., Newark, N. J.
GEORGE L. MACGREGOR.....Texas Utilities Co., Dallas, Texas
I. L. MOORE.....New England Electric System, Boston, Mass.
W. C. MULLENDORE....Southern California Edison Co., Los Angeles, Calif.
C. E. OAKES.....Pennsylvania Power & Light Co., Allentown, Pa.
J. S. OSBORNE..Central & South West Corp., Chicago, Ill.
KINSEY M. ROBINSON....The Washington Water Power Co., Spokane, Wash.
H. R. SEARING.....Consolidated Edison Co., of New York, Inc., New York, N. Y.
MCGREGOR SMITH.....Florida Power & Light Co., Miami, Fla.
PHILIP SPORN..American Gas and Electric Service Corp., New York, N. Y.
FRANK M. TAIT.....The Dayton Power and Light Co., Dayton, Ohio
E. S. THOMPSON....The West Penn Electric Co. (Inc.), New York, N. Y.
J. R. WHITING....Consumers Power Co., Jackson, Mich.

CHAIRMEN OF EDISON ELECTRIC INSTITUTE COMMITTEES (1954-1955)

ACCOUNTING

Accounting Division Executive, O. K. BOYD.....Baltimore Gas and Electric Co., Baltimore, Md.
Coordinator of Customer Activities, F. J. PORTER, JR.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
Customer Accounting, S. A. COLE.....New York State Electric & Gas Corp., Ithaca, N. Y.
Customer Collections, A. H. MAYER.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
Customer Relations, T. J. PETERSON.....The Detroit Edison Co., Detroit, Mich.
Coordinator of General Activities, W. T. HAMILTON.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
Depreciation Accounting, C. N. RICE, JR.....Northern States Power Co., Minneapolis, Minn.
General Accounting, C. T. DWIGHT.....The Hartford Electric Light Co., Hartford, Conn.
Internal Auditing, G. G. BECHER.....The Dayton Power and Light Co., Dayton, Ohio
Plant Accounting and Records, F. W. ROSS.....Pennsylvania Power & Light Co., Allentown, Pa.
Taxation Accounting, C. A. PALMGREN, JR.....New Orleans Public Service, Inc., New Orleans, La.

COMMERCIAL

Commercial Division Executive, O. R. DOERR.....Pacific Gas and Electric Co., San Francisco, Calif.
Commercial Sales Group, R. W. BUTTS.....Ohio Edison Co., Akron, Ohio
Farm Group, BUD S. MOSS.....Georgia Power Co., Atlanta, Ga.
Industrial Power and Heating Group, G. S. YOUNG.....Kansas City Power & Light Co., Kansas City, Mo.
Residential Group, H. H. BRENAN.....Pennsylvania Power & Light Co., Allentown, Pa.
Special Service Group, F. C. PESVEYC.....Public Service Electric and Gas Co., Newark, N. J.

ENGINEERING

Engineering Division General, E. L. HOUGH.....Union Electric Co. of Missouri, St. Louis, Mo
Electrical Equipment, C. L. DERRICK.....The Hartford Electric Light Co., Hartford, Conn.
Hydraulic Power, P. M. HESS.....Pennsylvania Water & Power Co., Lancaster, Pa.
Meter and Service, C. V. MOREY.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
Prime Movers, W. L. CHADWICK.....Southern California Edison Co., Los Angeles, Calif.
Transmission and Distribution, J. W. ANDERSON.....Philadelphia Electric Co., Philadelphia, Pa.

GENERAL

Accident Prevention, R. P. DOUGLAS.....The Detroit Edison Co., Detroit, Mich.
Area Development, W. I. DOLBEARE.....Virginia Electric and Power Co., Richmond, Va.
Atomic Power, EDGAR H. DIXON.....Middle South Utilities, Inc., New York, N. Y.
Codes and Standards, E. W. DOEBLER.....Long Island Lighting Co., Mineola, N. Y.
Electric Power Survey, ARTHUR S. GRISWOLD.....The Detroit Edison Co., Detroit, Mich.
Financing and Investor Relations, H. A. BUSCH.....General Public Utilities Corp., New York, N. Y.
Industrial Relations, F. R. RAUCH.....The Cincinnati Gas & Electric Co., Cincinnati, Ohio
Insurance, WALTER O. RANDLETT.....Virginia Electric and Power Co., Richmond, Va.
Legal, D. BRUCE MANSFIELD.....Ohio Edison Co., Akron, Ohio
Membership, E. S. THOMPSON.....The West Penn Electric Co. (Inc.), New York, N. Y.
Prize Awards, HARRY RESTOFSKI.....West Penn Power Co., Pittsburgh, Pa.
Purchasing and Stores, J. D. HOGG.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
Rate Research, C. A. WILLIAMS.....The United Illuminating Co., New Haven, Conn.
Regulation, HARLLEE BRANCH, JR.....Georgia Power Co., Atlanta, Ga.
Research Advisory, R. E. MOODY.....Union Electric Co. of Missouri, St. Louis, Mo.
Research Projects, C. W. FRANKLIN.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
Statistical, ROY F. CRIM.....West Penn Power Co., Pittsburgh, Pa.
Tax Policy, R. P. BRIGGS.....Consumers Power Co., Jackson, Mich.
Technical Exchange for Overseas Visitors, HARVEY E. BUMGARDNER.....The Detroit Edison Co., Detroit, Mich.
Transportation, RANDOLPH WHITFIELD.....Georgia Power Co., Atlanta, Ga.